

**Kuwaiti Housing Legislation with Emphasis on Interior
Architecture Based on Space Syntax, Motivation and
Adaptation Theories**

Thesis submitted for the degree of

**Doctor of Philosophy
In
Architecture**

By

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Abstract

From observational approaches to housing in Kuwait, it has been found that the people there are experiencing a housing crisis, specifically in interior architecture, as they are building and living in houses that do not fulfil their needs. This is evidenced by the fact that in a single year, almost every house owner in both private and governmental houses in Kuwait city has done two or three alterations, either adding a room or bathroom, enlarging a living room, or adding walls for privacy.

For the above reasons, the aim of this study is to build a body of knowledge based on several theories, in order to enrich and improve the current Kuwaiti housing legislation with emphasis on interior architecture. By having access to authorized information, in theory Kuwaitis could improve their homes. This study therefore investigates theories such as Maslow's Motivation Theory that highlights the hierarchy of human needs, Adaptation theory to explore the cultural, social, and environmental adaptation processes humans experience within their houses, Space Syntax to provide a systematic approach to segregation and space integration within the house, and sustainability to provide guidelines for building houses that maintain the people's cultural values and house design traditions in a way that

enriches their lives and well-being. In addition, this study focuses on planning and building legislation and the impact of neighbouring on the house design that in turn affects people's daily lives.

This study begins by giving the reader a brief history of Kuwait and its urban development, along with the influence that the discovery of oil had on people's houses and their house design. This is followed by two parts: the first is the deductive part, which explores the theories outlined above, while the second is the inductive part and describes the author's empirical work in which extended interviews with open-ended questions were used to acquire data regarding people's feelings, problems and needs within their houses. The findings and conclusions from that work are presented together with recommendations for future housing design. The research findings and the deductive part of this study are then considered together to produce a framework which legislators and designers in Kuwait Municipality and the PAHC (Public Authority for Housing Care) could use to improve the current Kuwaiti housing legislation comprehensively, with emphasis on the interior architecture. In the conclusion a review of the main findings of the thesis is presented, together with a set of fundamental recommendations derived from the synthesis of the deductive and inductive parts of this research. The thesis concludes with a final message about the importance of interior architecture in the quality of people's lives.

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Declaration

This thesis is my original work and has been composed solely by myself.

Fawzi Alzamil.

Abstract

It has been observed that the people of Kuwait are experiencing a housing crisis, as shown by the fact that house owners are constantly finding it necessary to alter the interior of their houses. The reason for this is that their houses neither fulfil their needs nor represent who they are as Muslim Arabic people. Therefore the aim of this study was to build a body of knowledge that could be applied to enrich and improve the current Kuwaiti housing legislation with emphasis on the interior architecture.

The study combines interpretations derived from a number of theories, such as Maslow's Motivation theory, Adaptation theory, Space Syntax and Sustainability with the results of empirical work carried out by the author to gather data regarding people's feelings, problems and needs within their houses in order to outline guidelines for building houses that maintain Kuwaiti people's cultural values and house design traditions. The result of this synthesis of theoretical and practical research is a framework which legislators and designers in Kuwait Municipality and the Public Authority for Housing Care (PAHC) could use to improve the current Kuwaiti housing legislation in a way that enriches the people's lives and enhances their well-being.

Dedication

To Allah almighty

To my family

To Emad and Qutaiba

To all Kuwaitis

To all of them I dedicate this thesis

Acknowledgments

Thanks and gratitude to Allah (God), the most merciful, knowledgeable, and exalted in might, for his leadership and direction in the completion of this study.

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Acknowledgments

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Chapter 1 Introduction

1.1 Introduction

History shows that prior to the discovery of oil in 1950, Kuwaiti houses had special physical characteristics, creating a distinctive experience. One notable feature was that families were united and interacted on a daily basis. The successful linkage between the unified families and their homes was due to the structured Kuwaiti culture, which was based on its religion, Islam.

In the last half of the twentieth century the authority of the traditional Islamic architecture in house design in Kuwait has been impacted by globalization and modernization, which have influenced the social aspects of the typical Kuwaiti family and its house design. These are the most noticeable extrinsic forces in Kuwaiti society and have profoundly affected the design of the house. Currently, because of the modernization movement associated with wealth that occurred with the discovery of oil in the 1950s, Kuwaiti houses have lost their identity, philosophy, and characteristics of the interior architecture which in turn, has resulted in the dramatic distortion of family unity, social interaction and well-being.

1.2 Research Questions

Do people not know what they want or need within their house before they build it? Do they have guidelines or plans to facilitate the design of a space that corresponds to who they are as Kuwaitis, and the way they interact inside their house? Do they know that they are supposed to live in homes not houses, and what the difference is between them?

Does the Kuwaiti designer and Kuwait Municipality help in this respect? Would some improvements in terms of interior architecture in Kuwaiti housing legislation help to improve the houses? This last question is especially relevant as it has been found that Kuwait Municipality hardly have completed legitimate house legislation, moreover, there is very little information regarding interior architecture in the current housing legislation which was written in the 1950s and not been changed or updated since then.

1.3 Aims of the Study

For the above reasons, the aim of this study is to build a body of knowledge based on several theories, such as Maslow's Motivation theory, Adaptation theory, Space Syntax, and Sustainability, in order to enrich and improve the current Kuwaiti housing legislation. By having access to authorized information, in theory Kuwaitis could improve their homes.

1.4 Discussions

The author believes that houses should be designated firstly and finally for the well-being of humans, so they have to be designed to satisfy all aspects of a person's habitation needs – environmentally, socioeconomically, culturally, physically, and psychologically.

1.5 Literature Reviews

The author started with a **literature review**, and visited many areas in order to attempt to improve the current housing legislation. In this study, the author tends to take comprehensive theoretical approaches from different theories **due to this significance within the culture**; this is needed to improve Kuwaiti house legislation as this is the authorized realm that allows the Kuwaiti government to improve people's lives within

their houses. Accordingly, the author explored different theories and accumulated knowledge from each in terms of the interior architecture of housing design as it relates to inhabitation and human beings' priorities and needs within their houses.

1.6 The Organization of the Thesis

The thesis is organized in three parts. The first sets the cultural context of this study in terms of the history and traditions of the Kuwaiti people, and their notion of 'home'. The second part is the deductive part, which explores a number of theories relating to people's needs within their houses, while the third is the inductive part and describes the author's empirical work gathering data about people's views on their homes. The research findings and the deductive part of this study are considered together to produce a framework which legislators and designers in Kuwait Municipality and the Public Authority for Housing Care (PAHC) could use to improve the current Kuwaiti housing legislation

1.6.1 Part one: The cultural context

1.6.1.1 Kuwait History

After a brief history of Kuwait, presenting some fundamental yet general information, followed by a review of urban and housing development, an investigation of the concepts of home and house is presented.

1.6.1.2 Home, House, and its Alteration

At the start the idea of the **house and home** is illustrated and explored in terms of Kuwaiti culture and environment. In order to design houses that are appropriate for Kuwaitis as human beings, that respect their needs, it is important to ensure that the legislation maintains the genotype of the Kuwaiti house and its culture's elements and

values. For instance, no Kuwaiti house will be ideal if privacy has been neglected. Therefore the theory of genotype and phenotype is presented. The ideal would be to have the seed and the root of the traditional meaning (**Genotype**) of the Kuwaiti house embedded in the improved housing legislation; while leaving flexibility as to its appearance (**Phenotype**) as freedom for individuals to explore and enjoy different materials, as taste in these is variable and differs from one person to another. To use the concepts of Genotype and Phenotype is to keep the roots and seed of the traditional Kuwaiti house to make a distinction between **house** and **home**. This is why the author has dedicated a section in this study to exploring the fact that the government, represented by Kuwait Municipality and PAHC, in adopting the current housing policies inspired by different cultures is making it very difficult for Kuwaitis to make them homes. As a result, the people are suffering by having to make constant alterations, as each culture has its own typology that connects people with their spaces and identifies who they are.

Living within a house is associated with essential processes that are considered a vital part of living within that house; these are the processes of adaptation with the interior architecture of the house.

1.6.2 Part two: The theories

1.6.2.1 Adaptation Theory

The law of **adaptation** is a primary law of nature that applies at all levels, and in both physical and cultural domains. In other words, all the different shapes and forms in human beings' environments are the result of interaction with that environment, as each environment demands a certain functionality to adapt and live within it, and these forms are the result of these functions and interactions.

1.6.2.2 Motivation

The author explored **Maslow's Motivation Hierarchy of Needs** which is based on five fundamental human needs, as the life of any human being in any space within the house is framed and influenced by their needs as human beings. Motivations in house design are many and varied and not only depend on personality and culture but also change with time, place and situation.

After finding a space to live in that provides shelter and fulfils the human's physiological needs, as well as those of safety, love, and self-actualization, then dividing the house into spaces devoted to functions according to the family's priorities, activities, and social interactions is the next step, and this is where space syntax theory applies.

1.6.2.3 Space Syntax

Spaces have to have order and axes that correspond to their functions. That is, they should have connectivity and integration and they should be physically and socially integrated and connected; and this was what led to the study of space syntax theory. The term **space syntax** encompasses a set of theories and techniques for the analysis of spatial configurations. Originally it was conceived by Bill Hillier, Julienne Hanson and colleagues at The Bartlett, University College London in the late 1970s to early 1980s as a tool to help designers, architects and urban planners to simulate the likely social effects of their designs. The general idea is that spaces can be broken down into components, analysed as networks of choices, and then represented as maps and graphs that describe their relative connectivity and integration.

1.6.2.4 Sustainability

Having found a house to live in, and divided it into spaces where different functions take place, people tend to sustain their lives within their houses in terms of their cultural, social, economic, and ecological values to improve their quality of life. As a result, the theory of sustainability has to be explored in order to allow for development that meets the needs of the present without compromising the ability to meet future needs. As these spaces are designated as human beings' spaces this need to sustain one's way of life intuitively leads to other processes of adaptation.

1.6.3 Part three: The empirical work and recommendations

At this point the author completed the theoretical work, as the focus in this study is the Kuwaiti people who live in the house and that is where the **empirical work** of this study took place. The author obtained data by using a qualitative interview methodology as a means to talk to sixty people from different areas in Kuwait from a range of ages, genders and professions; asking them their opinions about security, freedom, indoor and outdoor activities, privacy, children's playgrounds, and other things about the typology of the house in Kuwait, as the Kuwaiti house has deep-rooted rules and regulations based on Islam, such as segregation and privacy. The aim of these qualitative interviews was to explore and examine people's perception of the valuation of Kuwaiti houses. The design followed a qualitative method structured by open-ended questionnaire and face-to-face interviews. The interviews were divided into three sections, the city, neighbourhood, and the house.

Having compiled, classified and analysed the data by using schedules, it was possible for the author to come up with several key factors regarding the interior architecture of Kuwaiti houses. The responses were classified into three categories: objects, adjectives,

and activities. The outcomes of the different relationships between these categories create the perceptible reflection of the people's relationship with their house that legislators ought to consider in defining Kuwaiti Housing legislation. The author thinks that the main reason for the failure of government and private housing is that they are building houses, but these houses are not homes that can nurture the people's needs, and they do not value their culture, Islam and the social environment.

Having adopted Maslow's model of human motivation as a principal theoretical tool for identifying people's needs for their houses, and reviewed other theories to gain knowledge and understanding on which to base the design of houses that will fulfil the daily needs of Kuwaiti families, the author interprets the outcomes of this empirical work in the light of the previously discussed theories and puts these together into a body of knowledge that can be used by all those involved in the design of housing in Kuwait. The knowledge is presented in the form of recommendations that could be implemented by legislators and decision makers in the Kuwait Municipality and PAHC in terms of interior architecture, human behaviour, materials, room layout, technology, design elements and other fundamentals that have an immediate impact on families in supporting and nurturing the social and cultural transformation of the country within their houses.

The outcome of this study will be a body of knowledge to help the authorities in Kuwait to improve the current housing legislation with emphasis on interior architecture. This will have implications on the various decision making processes in different government departments and also on design and planning professionals.

Chapter 2 Kuwait History

2.1 Introduction

In order to understand housing in any nation, and more specifically the interior architecture of the house, it is essential to study the history, culture, environment, and the people's social and personal lives. Therefore this chapter presents general information and facts regarding the nature of Kuwait, its history and cultural environment, as an insight into the human interaction with the environment that in turn has an impact on the behavioural patterns which influence Kuwaiti house design.

This chapter presents a study of house design and brief discussion about urban design in Kuwait from geographical, historical, climatic and cultural/religious perspectives through several sections. The first section presents a general overview of Kuwait's location and geography, climate, economy, and religion. The second section presents discussion of the historical background and its impact on house design. A third section reviews urban development and old Kuwait city and its influence on Kuwaiti people, while the fourth section sheds light on the traditional Kuwaiti house and its impact on family lifestyle. The fifth section discusses the history of housing planning in Kuwait followed by the conclusion of the chapter.

2.2 Location and Geography

Kuwait lies at the northwest corner of the Arabian Gulf, between 28° and 30° latitudes and between 46° and 48° longitudes. To the north and the west, it shares a border of 240 Km (149 miles) with the Republic of Iraq, and to the south and southwest it shares 250

Km (155 miles) with the Kingdom of Saudi Arabia. On the east it has a coastline of 290 Km (181 miles) on the Arabian Gulf. See Figure 1.

The total area of the State of Kuwait is 17,818 square kilometres. Most of the mainland is a flat sandy desert gradually sloping towards sea level in the east. It is broken by shallow depressions and low hills, which form a ridge at Jal Al-Zawr (145 metres above sea level), cut by the Umm Al-Ramam Wadi. The area is locally known as Ghodai, meaning a hill. The southern part of Kuwait is generally flat, with the exception of Ahmadi hill which is 137 metres above sea level.



Figure 1. Map of Kuwait

(Source: www.intute.ac.uk/.../worldguide/maps2/934_a.jpg.)

The Kuwaiti mainland, with no mountains, rivers or other natural features, was for a long time a transit area for nomadic tribes and caravans. Such freedom of movement made delineation of borders rather difficult. On July 7 1965 a neutral zone was created between the State of Kuwait and the Kingdom of Saudi Arabia. The northern part of the partitioned zone is administered by Kuwait, while the southern part is the administrative responsibility of Saudi Arabia. Both countries share equally the crude oil extracted from the partitioned zone.

Due to the location of Kuwait in the Sahara geographical region, the weather of the country is characterized by long, hot and dry summers and short, cold and sometimes rainy winters. Dust storms almost always occur with a rise in humidity during summer.

The highest temperature ever recorded was 52°C in July 1978, (making Kuwait the fourth hottest place in the world). The lowest temperature, -6°C, was recorded in January 1964. There is a wide variation of temperature, ranging from an average of 45°C in summer to an average of 8°C in winter. Such climate fluctuation is often accompanied by a change in the annual rainfall, which may vary from 22mm one year to 352mm the next (Ministry of Information, 1992, pp31-33).

2.3 Demographic Data

The population of Kuwait is ethnically mixed, due to large expatriate communities. There are many minority groups, Arabs from other countries, Indians, Pakistanis, Iranians, and before 1991 400,000 Palestinians. Kuwaitis represented 25% of the total population before 1991, but their relative number has risen since 1991.

According to the Ministry of Planning census of Kuwait the total population of Kuwait reached 2,390,591 in midyear 2004, of which Kuwaitis number only 935,922, representing only about 40%. This number is distributed between males who make up 457,985 and females who number 477,937. The Kuwaiti government is now concerned with keeping the number of foreigners below 50%, motivated by security concerns.

The average annual rate of change of population in Kuwait according to the 2004–2005 statistics of the Population Division of the United Nations Secretariat, World Population Prospects is 3.46. This rate is very high when seen against the rate in other countries around the world (see Table 1).

Table 1. Annual rate of change of population in Kuwait

Country	Annual rate of change of population
Kuwait	3.46
United Kingdom	0.31
United States	1.03
Japan	0.14
Egypt	1.99
Iraq	2.68
United Arab Emirates	1.94

(Source: Population Division of the United Nations Secretariat.)

2.4 Population and housing

The previous table indicates a high rate of future growth in population in Kuwait, which will have a great impact on housing demand. According to the mid-year 2004 Ministry of Planning statistics there were on average an 834 new Kuwaiti families, which can add up to about 10,008 families a year in Kuwait among Kuwaitis only. This number is very useful for this research as it shows the demand on housing in general, and

constraints on its design, as this cannot be completed without an adequate housing legislation, which is the core for this study.

2.5 Economy

The oil reserves of Kuwait are estimated at around 10% of the world total, and will at the present level of extraction last for 150 years more. Agriculture and food production is limited, and make up less than 2% of Gross National Product (GNP). Fishing is becoming more and more important, and is at the level of 9,000 tons annually.

The infrastructure in the eastern part of Kuwait is well developed, and comprises 4,700 kilometres of roads, and an international airport near Kuwait City. There are five newspapers, two of which are in English. Telephones, radios, television sets, and PCs are common among all citizens. The Gross Domestic Product (GDP) is estimated to be about KD41.46 billion in 2003. Purchasing power parity is calculated to be \$19,000.q.

2.6 Islam as Belief and Lifestyle

Cultural values and traditions have many definitions and interpretations that are used by anthropologists (e.g. Hall, 1969, 1974; Taylor, 1958), and city planners and urban designers (Lynch, 1960, 1972; Alexander, 1977; Bacon, 1967). All previous studies have agreed on one concept, that our physical environment is a manifestation of cultural values, norms, traditions and sanctions. These values and norms set people's life qualities, art, music, literature and language. Also, these qualities are nonphysical constraints that shape our mental and spatial behaviour, and therefore vary from one culture and tradition to another.

Unlike many places, religion still plays a strong role in house building legislation and the interior architecture of the house in Kuwait. As in many cultures, “architecture can be seen as a translation of the spiritual values and believes... Generally, there is a close interaction between what people built and believe. Islam as a religion provided a comprehensive cultural system that embedded religion practices in daily life. It acknowledges the interconnection between the divine and the human world” (Bianca, 2000).

Article 2 of the constitution states that “the religion of the State of Kuwait is Islam, and the Islamic Sharia shall be a main source of legislation”. Article 35 states that “Freedom of belief is absolute. The state protects the freedom of practicing religion in accordance with established customs, provided that it does not conflict with public policy or morals”.

Fourteen centuries ago, Islam stated that all economic, social and political life should set out to the God (Allah), and be coded with what the messengers said. These legislations and rules, known as the *sharia* or Islamic law, administrate the Muslim’s life with God, self, family and society. Therefore Islamic principles and norms are not derived from a tradition that can be subtracted or added, but from God, through the words of the messenger he bestowed upon the Muslim community (Al-Saif, 1994, p. 21).

Islam gave Kuwaitis and all Muslims the main objective for life, and the reason why Muslim human beings have been created and exist in this life, and that is to worship the creator Allah (God). As a result, all Kuwaiti daily activities, such as eating, going to work, being married, sleeping, socializing, parenting, traveling, and even small details

like purifying by water in the bathroom, shaking hands, or even wearing of clothes, all these activities and many more are ruled and orchestrated by what God ordained Himself and communicated through his messenger, Mohammed, peace be upon him. These rules and orders illustrate that Islam is a way of life and is manifested in all socioeconomic and physical aspects of Kuwaiti people's daily life.

Islam is considered one of the three monotheistic religions, which trace their tradition to the prophet Abraham. It accepts both Judaism and Christianity as "religions of the books", yet it sees itself as the ultimate and final faith restored by the revelation of the prophet Mohammed, peace be upon him, who did not claim to be divine and is not worshipped by Muslims. He is seen as the human transmitter of the message of God. More specifically, Muslims' daily life is massively influenced by the Islamic religious order, living structures, and living habits. These religious practices are evident in what is called the "Five Pillars of Islam". These are as follows:

- *Shahadateen* – to believe that there is no God but Allah and Mohammed is his messenger
- Performing five daily prayers
- Almsgiving
- Fasting during the month of Ramadan
- Pilgrimage to the Ka'aba at least once in a lifetime, if able

In Islam, there is an obligation to perform prayers in congregation wherever possible five times a day. On Friday noon prayer is held in a larger congregation that brings the whole community into one single large mosque. This weekly event has many social and

political connotations. The sequence of the five daily prayers clearly structures the daily activities of the whole community. It also governs the commercial activities in the city.

Almsgiving is a charitable obligation on every able Muslim. It is paid yearly at a rate of at least 2.5% of each individual's yearly surplus to the poor in the community. It has a lot of social benefits to society in general. It is also evident in the form of constructing mosques and other public service structures like *Sabil*, drinking water fountains, rest areas and *Awqaf*, businesses and funds aimed for the benefit of the poor.

Fasting during the month of Ramadan is another obligation that is practised collectively every year. It involves fasting every day during the month of Ramadan from dawn to sunset. It brings with it a lot of religious and social practices that influence the daily routine of the community as a whole. Most Muslims in the world prefer to take the whole month as a worship holiday by taking a break from any activities or materialistic issues that would conflict of the spiritual atmosphere that Muslims have in this month.

Performing pilgrimage to Mecca is another pillar of Islam and a duty on every Muslim. This one trip, made at least once in a lifetime, takes the whole Muslim community to one destination in a collective effort to perform highly structured duties that take at least one week to complete and ends with the biggest Holydays of Islam.

The entire previous pillars call for one main important goal, which is unity for the Muslim community on a large scale, which is called *Umma* (Muslim nation) or in a small community, which is called *Osrah* (family). For each social unit Islam initiated supporting social activities and physical means. In this study light will be shed specifically on the Kuwaiti family, and their house design.

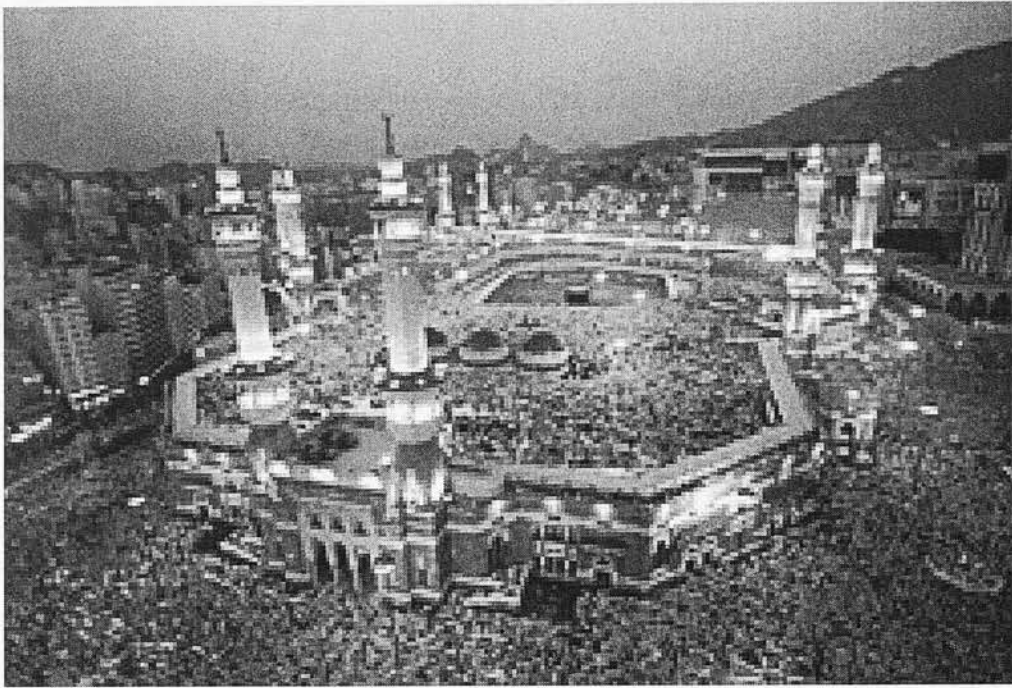


Figure 2. Mecca the venerable

(Source: http://www.solcomhouse.com/mecca_mosque_H_500.jpg.)

2.7 Historical Background

In order to create a comprehensive thesis about Kuwaiti housing legislation, it is necessary to shed some light on the historical background of Kuwait. This explanation could assist in building a cohesive understanding of the social structure of society. Since Kuwait is a relatively modern state with a short urban history, it is easy to trace back the origin of its development and understand the background of its urban fabric.

Although it has a clear homogeneous history and from its first establishment had a unique characteristic and independent entity, the history of Kuwait can be divided into two main phases, the development phase and the modern phase. Each phase has different characteristics and contributed heavily to the existing condition of Kuwait in terms of house and urban design.

2.7.1 The Development Phase

In this phase Kuwait grew as a political entity and established itself independent and unique from other settlements in the region. Its trade flourished even more. Its port became one of the most important in the Persian Gulf. Politically it managed to keep a carefully balanced relationship with all major powers in the region, especially the British and the Ottomans. In about 1775 Kuwait began contacts with the British, to whom they looked for support in maintaining a degree of autonomy within the Ottoman Empire. The relationship was formalized by a series of treaties in 1899 establishing a protectorate that lasted until 1961. During this period many Western travellers passed through Kuwait and there are different historical records containing their description of the town. Among these is this example from J. H. Stocqueler (1800–1885) who visited Kuwait on his way to Basra in today's Iraq. He wrote:

Koete, or Grane as its called in the maps, is in its extent about a mile long, and about a quarter of a mile broad. It consists of houses built out of Mud and stone, occasionally faced with coars chunam, and may contain about four thousand inhabitants. The house being for the most part square in form, with a courtyard in the center, (having windows looking into the yard), present by a very bare and uniform exterior, like, indeed, all houses in the Persian Gulf. The streets of Kuwait are wider than those of Musqat or Bushire, with a gutter running in the middle.

He goes on to describe the wall of Kuwait and the governmental system and its armed forces, in addition to the culture and costumes.

2.7.2 Modern History

Kuwait spent the early 1920s fighting off the army commanded by Abdul Aziz bin Abdul Rahman Al-Saud, the founder of modern Saudi Arabia. In 1923 the fighting ended with a British-brokered treaty. As a result, an oil concession was granted in 1934 to a US-British joint venture known as the Kuwait Oil Company (KOC). The first wells were sunk in 1936, and by 1938 it was obvious that Kuwait was virtually floating on oil. The outbreak of World War Two forced the KOC to suspend operations, but when oil exports took off after the war so did Kuwait's economy. As the country became wealthy, health care, education and the general standard of living improved dramatically.

The third and the fourth decades of the twentieth century were years of political and economic hardship in Kuwait. During that time Al Saud waged an economic war on Kuwait by collecting dues from Najdi Bedouins. This practice forced many Bedouins to buy their merchandise from somewhere other than Kuwait, which resulted in great losses to the Kuwaiti market. Another reason for that hardship was the production of the Japanese cultured pearl industry, which competed with the natural pearl that was one of the major sources of Kuwait's income. In addition to that was the world depression of the early 1930s, which added to Kuwait's financial problems.

2.7.3 The Discovery of Oil

The first exploration well was drilled in Bahrah when a geophysical exploration was carried out. Oil was first discovered in Burgan in 1938. Because of the Second World War exports did not start until 1946. As oil exports increased, Ahmadi – named after HH the Amir Sheikh Ahmad Al-Jaber Al-Sabah – was created near the oil fields as a township for oil company personnel.

The oil embargo in 1973 resulted in substantially improved oil prices. In 1975 the government took total control of the State's oil resources. The resulting massive inflow of funds was spent on developing the country's infrastructure and in improving living standards.

Modern infrastructure rose from the arid desert as roads, ports, factories, power generating stations, and desalination plants came into being. The population increased as thousands of foreign technical advisors and workers arrived to service the huge development schemes. Many Kuwaitis, members of a privileged minority, found themselves in new roles as importers, contractors, landlords and government officials.

The government's role in the economy and administration naturally increased under the impact of the new wealth and development. Modern business laws were promulgated. A new administrative order was devised as the government expanded. Though *Shura* (consultation) had always been a part of political life in Kuwait since the reign of the first Al-Sabah ruler, the government began developing a new style of constitutional rule.

Though Kuwait had been an independent political entity for more than two centuries, it gained international recognition as a sovereign state in June 1961. A few weeks later Kuwait joined the Arab League. In 1963 the country became a member of the United Nations (Abu-Hakima, 1983).

2.8 Urban Development History

The growth of the town of Kuwait took an oval shape dictated by its location on the peninsula at Ras Ajoza. It formed three unique sectors: the coastal sector, the

commercial sector, which extended from Safat Square to the sea and the residential sector.

A wall that stretched from the sea on the east to the sea on the west surrounded the town (see Figure 4). The wall was built to provide protection against the attacks of the nomadic tribes in the desert. The town of Kuwait grew gradually, and with its expansion, the inhabitants rebuilt the wall three times to surround a larger area. “The wall could not have been completed had it not been for the unfailing support and personal involvement of each and every individual Kuwaiti, man or woman, in the construction of that wall, which remained intact until its demolition in 1956 in accordance with the new town planning” (Abu-Hakima, 1983, p.133). The first wall was built in 1760; it had a length of about 750 metres, as shown in red in the map below (see Figure 3). At that time the town area was about 11.275 hectares. The second wall built in 1811, which then consisted of eight gates. Its length extended and became 2,300 metres which brought the area of the town to about 72.4 hectares, shown in blue on the same map. The third and last wall was built in 1921. It is shown in green on the map and stretched for 6,400 metres and the town area was about 750 hectares.

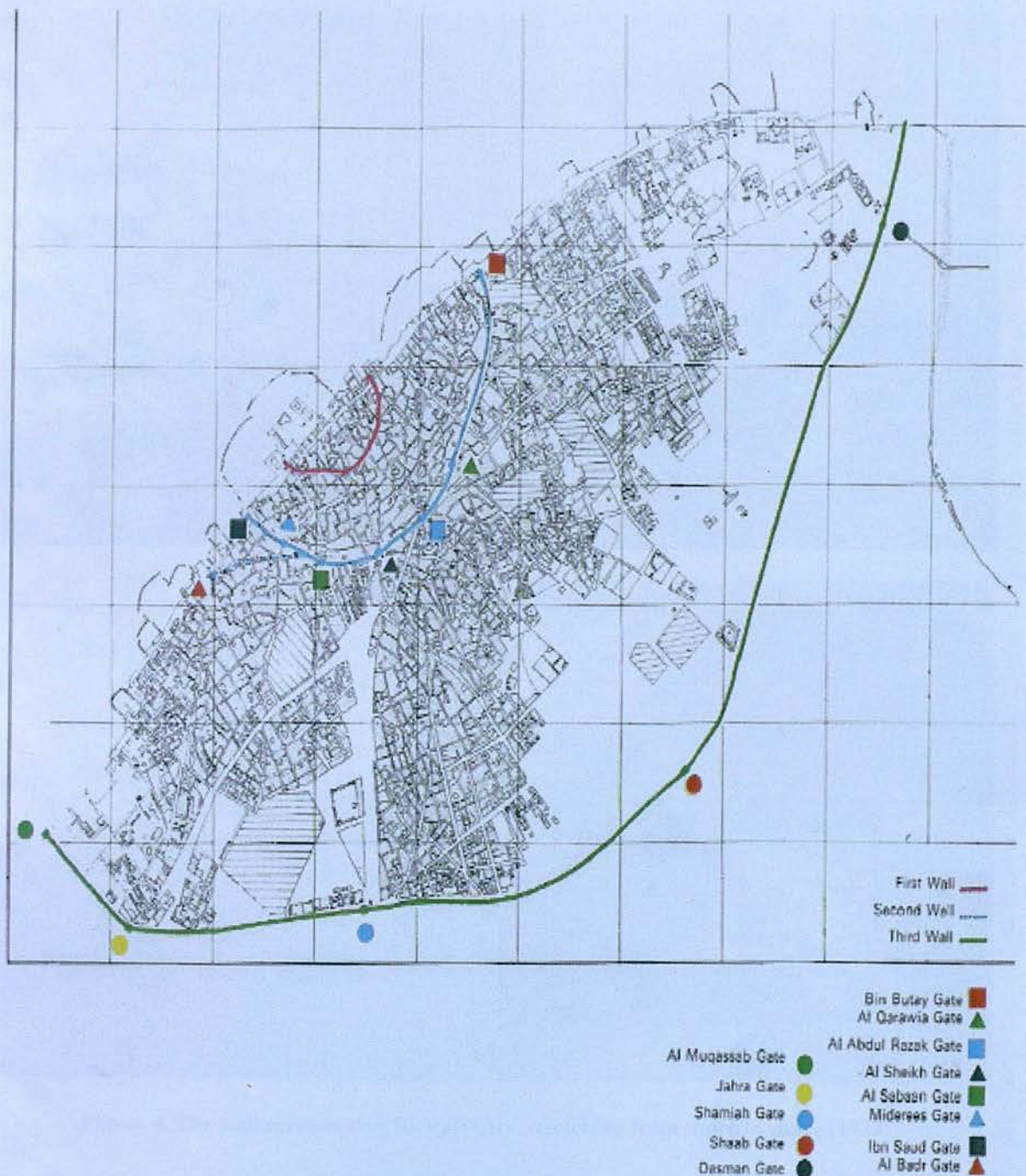


Figure 3. Map representing the walls of old Kuwait town and their gates
 (Source: Planning and Urban Development in Kuwait, Kuwait Municipality.)

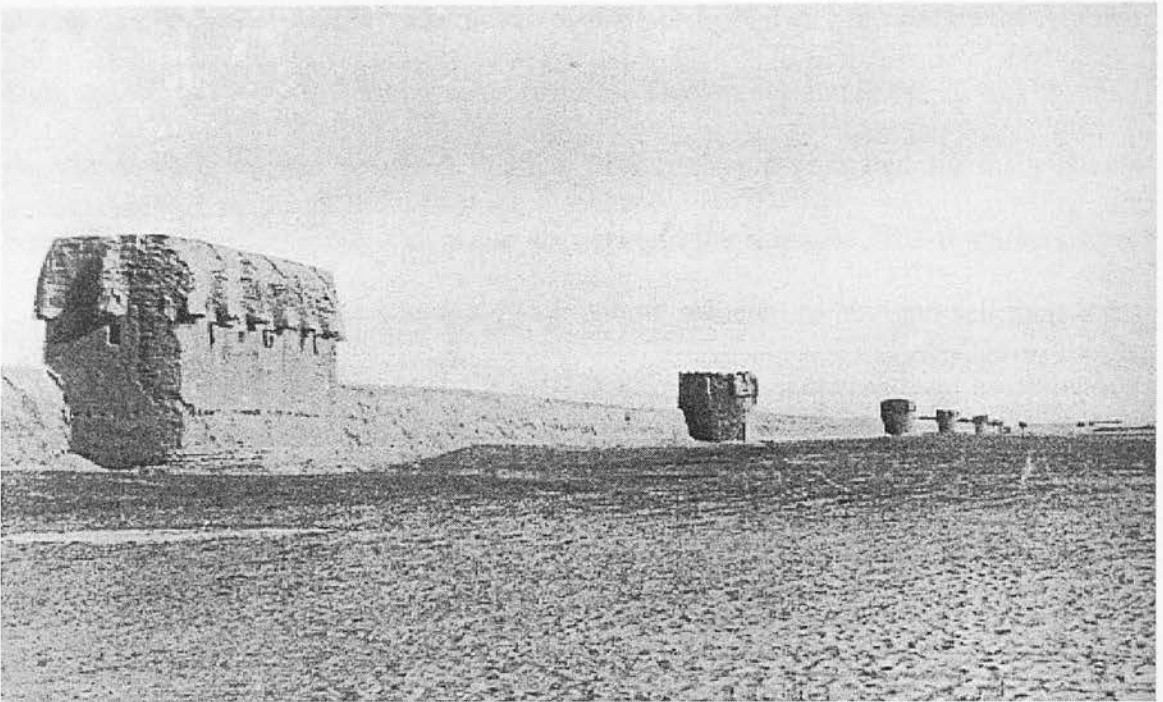


Figure 4. The wall surrounding Kuwait City, stretching from shore to shore (1920)

It was built in 1920 to keep the desert invaders out. Made of coral rocks and mud bricks, its 6.5 kilometres were interspersed with 31 towers. It has 5 gates some of which witnessed constant comings and going of camels, goats, and caravans through them. (Source for both pictures: Old Kuwait, *Memories in Photographs*, Alhijji, 1997.)

2.9 Old Kuwait City and its People

Before the 1950s Kuwait City was just an oval-shaped small city located on the Arabian Gulf, and it had desert Arabian city features. Due to its smallness it had a small population. It contained scattered districts or settlements separated by main streets connecting the public markets of these districts and the seashore. These markets were vital as they were the place where Kuwaiti people gathered to buy and sell their local homemade products. Beside these markets, there were open spaces used as children's playgrounds and they were used for local traditional festivals as well.



Figure 5. Kuwait City as seen from the anchorage (1930)

Clusters of houses crowded one above the other. In front of them stood rows of sailing ships, some floating on the surface of the water, others on the shore with their sterns hanging over the street and their hulls nearly touching one another. Between these houses and the beach, a narrow and busy main street runs from east to west of the city. (Source: Old Kuwait, *Memories in Photographs*, Alhijji, 1997.)

2.9.1 Urban Form of old Kuwait Town

The city was divided into several groups of markets or bazaars. Each group had its own descriptive title that represented its job or its task. For instance, the souk Al-Sefafeer

represented the people who worked in brass equipment and pots, and the place where people worked on sewing the *abas* or men's cloaks was called the souk Al-Beshot. The bazaars' communities supported one another on a daily basis. Moreover, each community had its own mosque, and *Dywaniya* where men gathered to discuss their businesses and socialize.

See Figure 6 to Figure 18 for examples of how the old city looked.



Figure 6. The old public market (1939)

(Source: Old Kuwait, *Memories in Photographs*, Alhijji, 1997.)



Figure 7. Women trading their own homemade products (1939)

(Source: Old Kuwait, *Memories in Photographs*, Alhijji, 1997.)

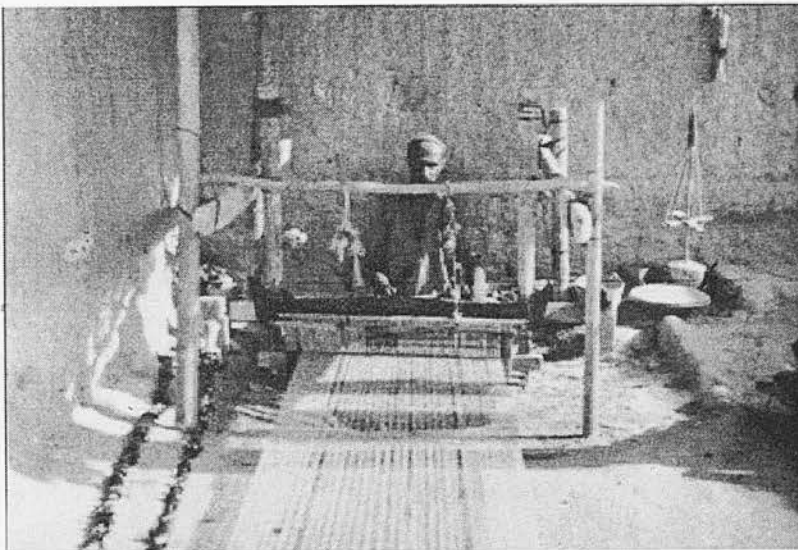


Figure 8. An old man weaving camel wall rugs and tents (1939)

(Source: Old Kuwait, *Memories in Photographs*, Alhijji, 1997.)



Figure 9. The *Kalander*, the person who delivered water to the houses (1939)

Water used to be brought from Iraq by ships. (Source: Old Kuwait, *Memories in Photographs*, Alhijji, 1997.)



Figure 10. Souk (market) Al-Sefafeer (1939)

(Source: Old Kuwait, *Memories in Photographs*, Alhijji, 1997.)



Figure 11. Abas or cloak designers (1939)

(Source: Old Kuwait, *Memories in Photographs*, Alhijji, 1997.)

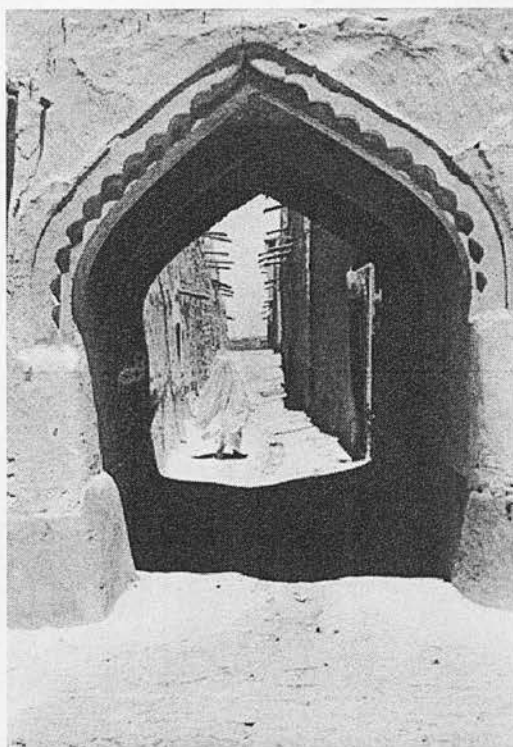


Figure 12. Kuwaiti neighbourhood (1937)

(Source: Old Kuwait, *Memories in Photographs*, Alhijji, 1997.)

Branching off from these bazaars were alleyways or *freegs*. Each alleyways had a traditional medicine person, an outdoor *Dywaniya* (men's gathering place), a school where children learned Arabic and the Quran, the Muslim holy book, a mosque and an open playground for children to enjoy outdoor activities. On special occasions like religious holidays (e.g. *Eid Alfitter* and *Eid Aladha*) all different *freeg* members would gather in a public open area called an *Alsofat*, and celebrate as one family unit.

Streets or alleyways were not paved, in fact they were winding narrow streets (see Figure 12), barely wide enough to allow camels carrying brushwood to pass by, and it was common that pedestrians should give way for a camel to pass.

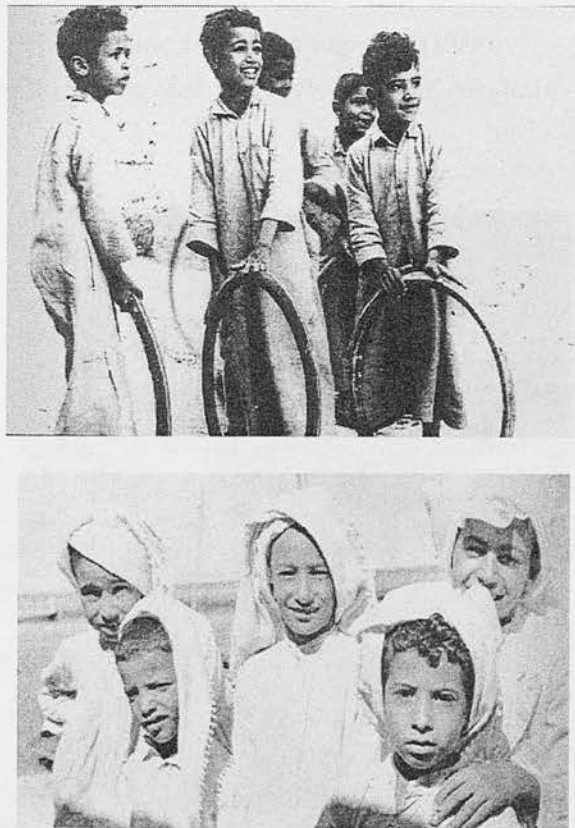


Figure 13. Children and their toys (1939)

(Source: Old Kuwait, *Memories in Photographs*, Alhijji, 1997.)



Figure 14. A freeg's mosque (1939)

(Source: Old Kuwait, *Memories in Photographs*, Alhijji, 1997.)



Figure 15. A school (1930)

(Source: Old Kuwait, *Memories in Photographs*, Alhijji, 1997.)



Figure 16. A freeg's Dywaniya (1931)

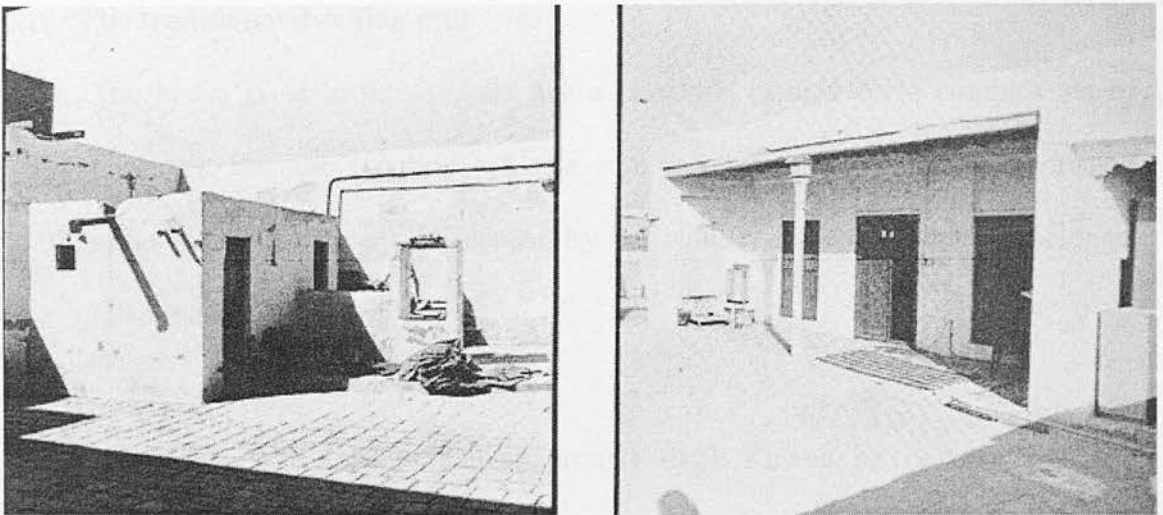


Figure 17. A poor neighbourhood (1940)

This is what houses for poor people were like, with few rooms on one side, and one kitchen and one bathroom on the other side. Rooms would be added around the courtyard as needed when the family members increased. (Source for all pictures: Old Kuwait, *Memories in Photographs*, Alhijji, 1997.)

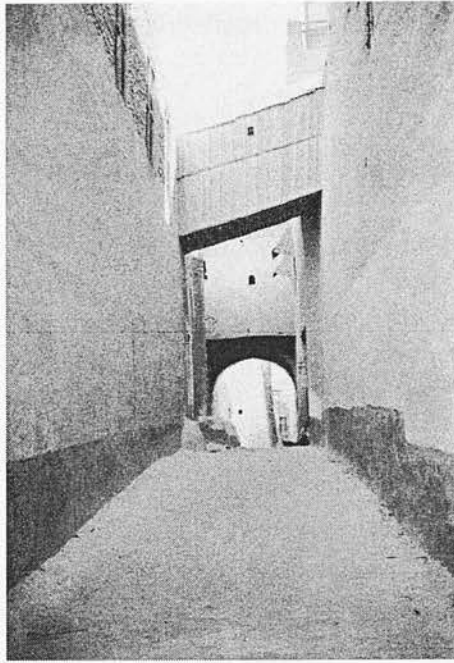


Figure 18. Two houses facing one another connected by an archway (1940)

(Source: Old Kuwait, *Memories in Photographs*, Alhijji, 1997.)

2.10 The traditional dwelling unit

The house is an institution, not just a structure, created for a complex set of purposes. Because building a house is a cultural phenomenon, its form and organization are greatly influenced by the cultural milieu to which it belongs. (Rapoport, 1969, p.46)

Before the discovery of oil in Kuwait around 1940, Kuwait had a very amicable atmosphere, because the entire Kuwaiti houses were based on humanitarian/Islamic needs, such as privacy, segregation, and simplicity. An emphasis was placed on humbleness and rooms were created without lavish furnishings or extravagant decoration.

The houses were one- and in rare cases two-storey buildings that were placed together, with many narrow streets between high walls to protect the pedestrians from the hot weather and to provide privacy to the dwellers.

Houses were built to meet all environmental, social, religious, and economic conditions. Generally, all consisted of different rooms located around one or more courtyards. Each dwelling housed a family that consisted of a number of households, a reflection of the intimate social lifestyle at that time. The size of the dwelling and its facilities depended largely on the economic status of the family.

The design of the home also depended largely on the class and family income. Low- and middle- class households had one courtyard, while rich families usually had two or three courtyards. The courtyards were classified according to their purpose: the function of the family courtyard was the same as the lower-and middle-class families' courtyard. It provided a private place for the family to get together to share the day's events like praying, plantation, celebration etc. The men's courtyard, sometimes known as *Dywaniya*, was where men gathered to discuss business or to play traditional games. It has the same tasks as the outdoor *Dywaniya*, or *Al-freeg Dywaniya*. The guest courtyard was particularly important as the host wanted to make a favourable impression in the minds of special visitors.

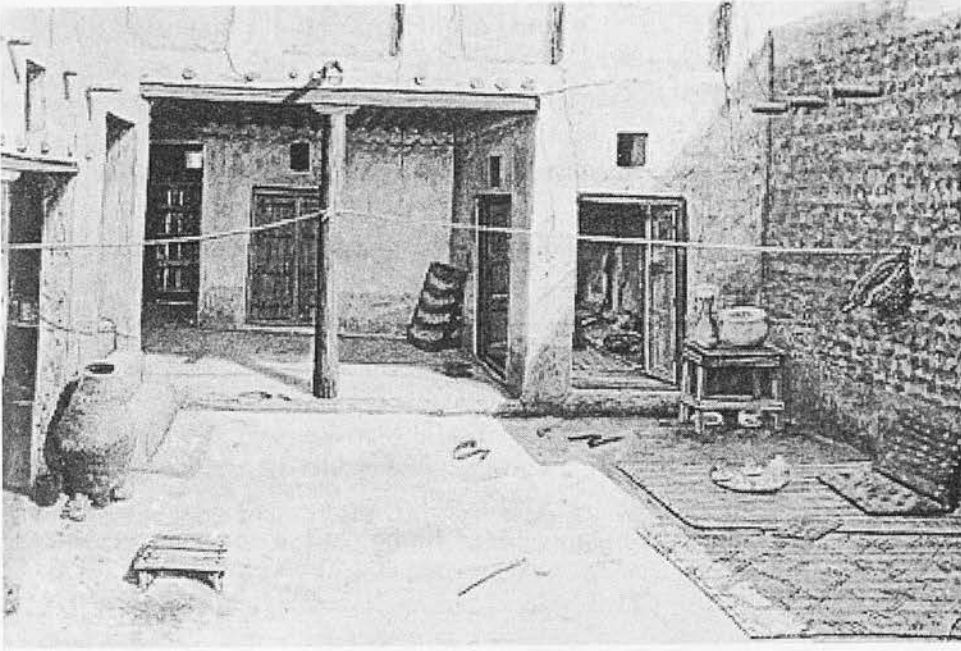


Figure 19. A typical Kuwaiti old courtyard house (1920)

Painting by Kuwaiti artist Ayoub Hussain.

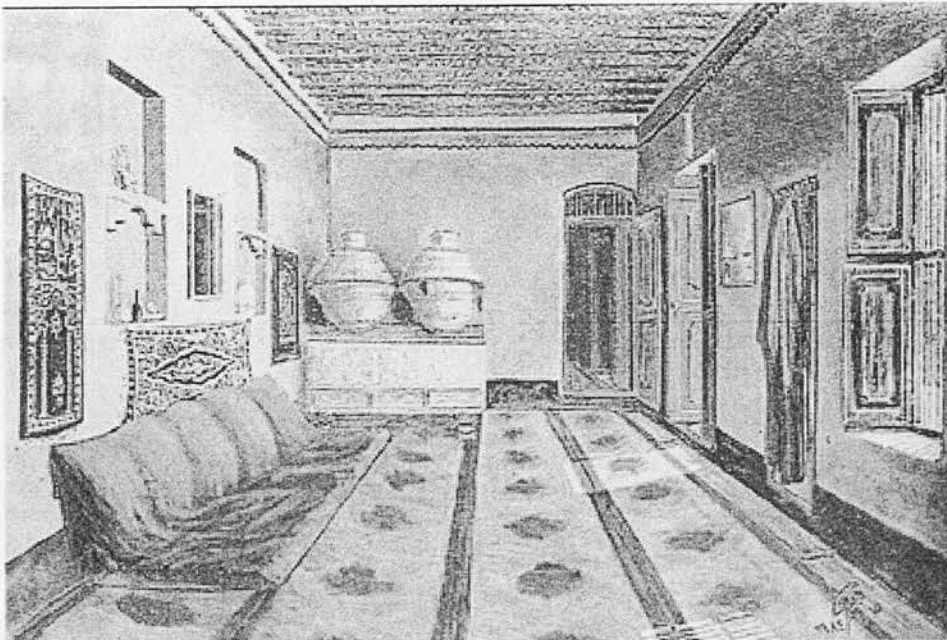


Figure 20. A typical room inside the house (1920)

The floor was covered by Indian coconut mats, two baskets above of the wooden chest used as the closet, pillows and cotton mattress used for sleeping as well as sitting furniture. (Source for both pictures: Old Kuwait, *Memories in Photographs*, Alhijji, 1997.)

2.10.1 The Old Kuwaiti Courtyard House Design

The house was considered to be a private, sacred space where only family, neighbours and relatives were welcome. The traditional Kuwaiti house often had a small door by the family courtyard or bridge on the rooftop that connected two houses. Sometimes entire neighbourhoods were connected by bridge, which lead directly to the neighbour's courtyard. In this way women could pass between the houses without being exposed to strangers from the street (Al-khars & Alagurogah, 1999). At that time men dominated the outside world. In contrast, the home was the women's domain where she was largely "in charge".

The upper-class houses were usually built near the sea where the families could enjoy the view and the closeness of the public market. Special materials were imported for the construction of the house. The front doors were larger in comparison to the lower-and middle-class doors. Special ornaments or design on the larger doors indicated the household's wealth.

Each area of the courtyard was utilized. In the morning the family ate breakfast together in the shaded area on the east side. In the afternoon, lunch and saffron tea was enjoyed in the shade of the west area. This provided the daily meeting place where family issues were discussed. Women usually prepared the meals in the south area or in the kitchen. At night after dinner in the north area, under a blanket of stars and in refreshing cool air, was the time for adult members of the family to discuss the day's events and private family matters, such as planning one of the daughter's marriages or helping a *freeg* family, as according to Islam the families should willingly share clothing, food, and money with other families in the neighbourhood (Quran, Surah 2, Al-Paquara). After

dinner, it was not unusual for a family member to sleep after a long hot busy day. So the courtyard was always in use which made it the most important space in the house for all family members. Every morning, after grinding the wheat, fresh bread was made and placed in the ground oven to bake. The courtyard was also a good resource for food. Women gathered vegetables for cooking and herbs for medicine.

The owners of traditional Kuwaiti houses were required to have the living room facing Mecca so that family members could pray in privacy while the men gathered in the mosques to pray. Out of respect, the bathroom's toilet was built in the opposite direction to Mecca (Organization of Islamic Capitals & Cities, 1991).

People with little income could not afford furniture for all of the rooms, and rooms would be added only if the family increased and more space was needed. In many cases the living room and bedroom were all in the same room and people slept on the floor. In the morning, they picked up their makeshift beds and tucked them away so the space was once again used as the living room (Al-Banay, 2000). The majority of Kuwaiti people did not have money to spend on furniture and accessories. For example, their furnishings may have consisted of a few pillows made of camel wool and perhaps camel carpets, and a wooden box used as a closet.

Water was collected in big containers and this rainwater and water brought from Iraq were the only sources of water. Some houses had their own well located in the courtyard or in a special shed area in the courtyard, which held water that was not for human consumption but was used for cleaning and watering the garden, and sometimes they use it as a refrigerator to cool their fruit and vegetables. Some people raised chickens, sheep and goats to provide the family with eggs, fresh milk and meat.

All houses were built from sea rocks and mud bricks along with a few timber poles and gypsum plaster, which were the only available materials in the area and were therefore the most economically viable. These feature and materials limitations are what gave the Kuwaiti houses their character and uniqueness (Al-duaij, 1994).

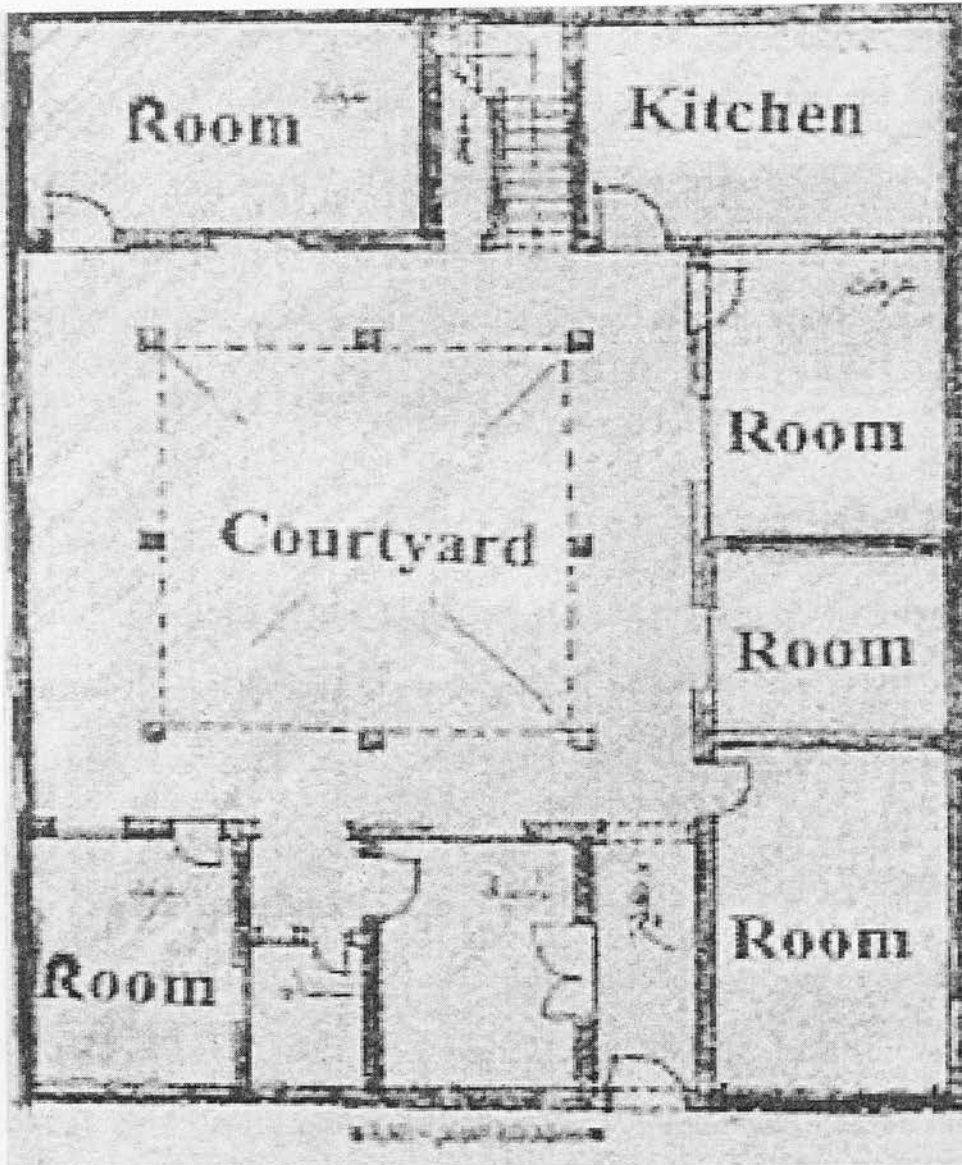


Figure 21. Floor plan for typical courtyard Kuwaiti house

(Source: the author.)

2.11 Planning History

With the discovery of oil, the economy boomed and many changes occurred in all aspects of life. In the late nineteen-forties there was a demand to shift the traditional life pattern and to follow modern planning policies to accommodate growth. In 1951 the government of the state of Kuwait commissioned the consultants Minoporio & Spencely and P.W. Madalane to prepare a master plan for Kuwait. The plan studied the area inside the wall as well as outside it, extending to what is today the third ring road. It proposed locations of zones for public building, industry, commerce, and schools. In addition, the allocation of new zones for housing was supported by the necessary utilities and service buildings. This master plan was the turning point in the process of urban development in Kuwait. Shortly after, major construction began to build roads, utilities, public services, new houses and many other urban projects.

The government began to provide housing for limited income families in 1954 when in the winter of that year heavy rainfall resulted in the destruction of many mud houses and left their inhabitants without shelter. Residents of these homes sought refuge in school buildings and the few houses already built.

Thus, the Construction Council issued a resolution to build 2,000 houses to be distributed to the needy (Algaradawy, 1978, p.51). In 1956 the government established the Public Properties Department which was in charge of the distribution of low-income houses. Then, in 1958 the Housing Committee was formed to take over this task from the Public Properties Department. Because of the heavy demand another authority was formed, the Houses Distribution Committee which was led by public and business figures. In the same year the Construction Council decided to allocate 1,500-square-

metre-lots to low-income families with loans provided by the government to allow them to build their homes according to their own specifications.

Then in 1967 a development plan was set to keep up with the rapid growth of the population and economic activities. The population of Kuwait was 206,473 in 1957, 321,621 in 1961 and 467,339 in 1965. This expansion in population was due mainly to the practice of offering Kuwaiti nationality to large number of settlers who came to Kuwait from different parts of Arabia and Iran. Most residents applied for governmental housing as it was seen as a constitutional right. Before that period many Kuwaitis did not apply for governmental housing because it was viewed as a form of charity that they did not like to receive, however, with time it became a common practice and today it is done by almost every person starting a new family. Thus the main accomplishment was planning 40 residential areas along with other commercial and industrial areas and the expansion of the highways roads system.

Later as more developments were established the Municipality reached out to the United Nations to ask for advice in planning and design. The UN proposed appointment of an international consultant to undertake that task. Accordingly, Kuwait Municipality signed an agreement with the British consultant Colin Buchanan 1983 to prepare complete studies for the second master plan and provide the government with a long term planning strategy, establish a National Physical Plan, a Short Term Master Plan for Urban Areas and the plan for Kuwait Town. That study has provided the backbone of all planning studies until today.

The plan recommended the removal of all shanty housing and the settlement of the Bedouins. It proposed three types of residential densities for the rest of the population as follows:

- Low density 50 persons/hectare
- Medium density 120 persons /hectare
- High density 265 persons/hectare

Later in 1977 the Municipality appointed the British consultant Shankland Cox Partnership to work on the first review of the second master plan of Kuwait. It was an important step in the reaction to the unexpected growth in the population of Kuwait and the major economic and social changes. The study covered different aspects of planning for Kuwait City and the metropolitan area. Regarding housing issues, it proposed a house building program to relief the overcrowding, suggesting a building rate of 16,000 units per year. (All the previous planning was taking place without consideration for housing legislation; we will discuss this subject later in the chapter on legislation.)

2.12 Housing Care

In tandem with the urban planning initiatives, the state of Kuwait established a lot of plans and policies to provide housing care for its citizens. Initially those plans were targeted to families with limited income who were very affected by the harsh circumstances of modernization. Yet, housing care, like everything else in Kuwait, underwent rapid changes and improvement throughout the years. Public housing is considered one of the major sources for housing and it is one of the major components

of Kuwait's urban fabric. It is therefore important to understand its emergence and be aware of its development.

In 1960 the government established the Credit Bank with a KWD7.5 million (Kuwaiti Dinar) capital to provide housing loans for residents of Kuwait. This proved to be a very successful organization and lead to the issue of another resolution to rename it the Bank of Credit and Savings and increase its budget to about KWD320 million in 1976, reflecting the wide ranging services the bank was offering to the general public of Kuwait.

As the demand for housing grew the government moved toward an increase in housing density. One can see the development of the plot size throughout the years. At one time it was between 150 and 200 square metres. Later it had reached between 300 and 400 square metres. According to Yousef Abdul Rahim (1992), "With the increased of the economic statue of the public and for the seek of diminishing any inequity among the recipients from housing care project. It was decided to unify lot size in all future housing project to become 400 square meter from 1982" (Rahim, 1990, p.6). That was one of the most significant steps towards taking consideration for cultural and social dimensions.

In 1995 housing laws were revised and upgraded and the Public Authority of Housing was renamed the Public Authority of Housing Welfare. In that year housing care in Kuwait completed its fortieth year and the revised law included a lot more benefits than before. For example, priority was given to families of *Shuhada* (those who were killed in battle), POWs and the handicapped. The commitment was to provide housing care within five years of application date. The government also committed to providing loans

to owners of public houses in order to expand and renovate existing houses. In 1994 the government, under pressure from parliament, issued a new statute that stipulated a minimum area of 400 square metres for housing lots, and obliged the government to pay KWD100 a month in compensation to all applicants while they were waiting for their governmental house.

Statutes of housing care No.27 for the year 1994 Kuwaiti government to provide housing unit on a lot of land of an area not less than 400m² for every Kuwaiti married and over 18 years of age. It also obligates the government to pay 100 dinar a month for the applicant until he receives his dwelling unit, or receive a loan or KWD70,000 a month which can be scrapped later, and in all cases a document for ownership is given after 10 years. (Kuwait Municipality, 2004, p.8)

As we will see later, right up to the current day, even after about fifty years of housing care, there is more demand than ever for change and improvement in house allocation, design and legislation, especially with the increased number of applications, which have reached about 66,000, and the failure of the governmental agencies to meet their set goals and promises. This fast growth, and massive pressure of housing demands has led to many changes in housing legislation and house code building which has resulted in unsuccessful house designs that do not meet Kuwaiti people's daily life activities and standards, or their social, economic, physical, psychological, and cultural/religion needs.

2.12.1 The Current State of Housing Care in Kuwait

The types of houses in Kuwait are classified into five categories as follows:

1. **Low-income Housing:** These are homes built by the government and distributed to low-income Kuwaiti families. (See Figure 22.)



Figure 22. Example of government houses
(Source: the author.)

2. **Traditional Houses:** these are houses built before 1950. (See Figure 23.)

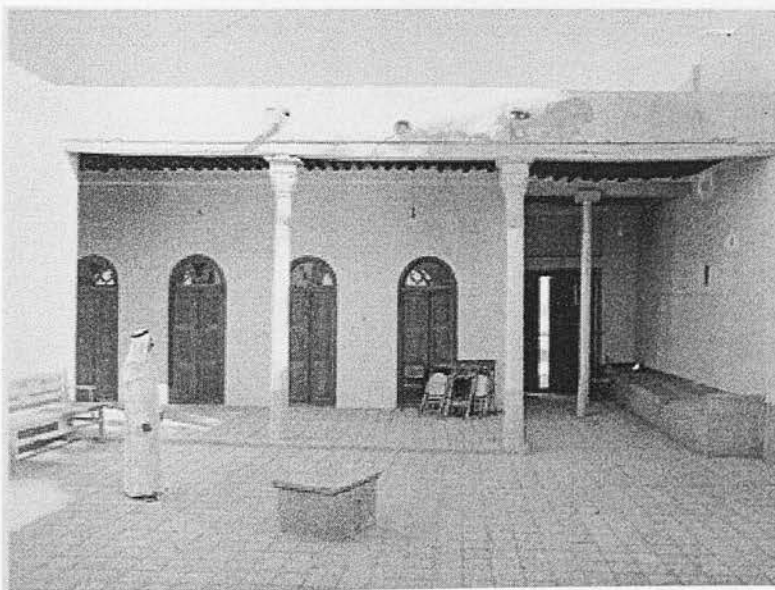


Figure 23. Example of late 1950 traditional courtyard Kuwaiti house
(Source: Lewcock & Freeth, 1978.)

3. **Apartments:** These are the most common housing types in Kuwait. They are used often by non-Kuwaitis. (See Figure 24.)

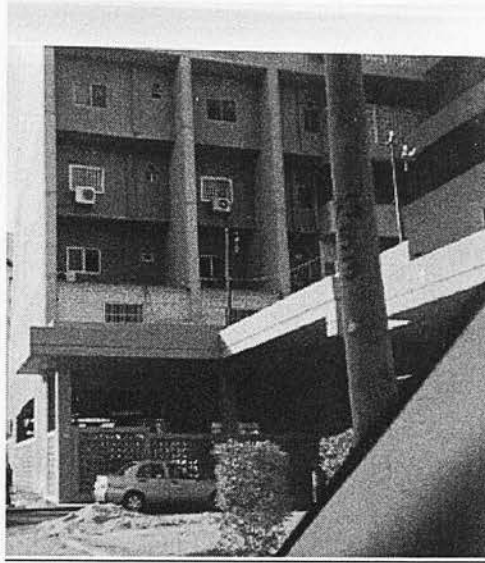


Figure 24. Apartments

(Source: the author.)

4. **Villas:** These are private villas built on lots ranging in size from 375m² to 1,000m². (See Figure 25.)



Figure 25. Example of Kuwaiti villa

(Source: the author.)

5. **Others:** These are governmental houses and oil companies' accommodation homes and different palaces that make up less than 1% of the general number of houses in Kuwait.

The most significant indicator that reflects the success of any housing project is the amount of alteration that is applied to it. A large amount of alteration, especially if it is done soon after moving in, reflects project failure. There is an observation that shows the suitability of the governmental home to the needs of the residents in Kuwait. Field research carried out by the Ministry of Social Affairs in 1970 on a 5% sample of the houses in different areas of Kuwait showed that 76% of the families had altered their homes, and 67% of these alterations were done in the same year as moving into the house. For 69.5% of the families who altered their homes, the reason was changing the house to accommodate the growing size of the family, while 28% had altered their homes for beautification reasons. This means that 70% of those who altered their homes did it for necessary reasons and added spaces that were supposed to be in the original house to accommodate the needs of the owners (Algardawy, 1978, p.85). In the same study, 60% of home owners who had done some alterations wished to do more.

Another important reason that affects the suitability of the house is its location and surroundings, however, this factor is not of concern to this study.

2.13 The sufficiency of the home

The ratio between number of rooms and the size of the family was considered one of the most commonly used criteria to determine the overcrowding of the house. Yet, this is a relative term that changes from one society to another and from one country to another.

This criterion changes according to the economic level and the social traditions in a specific place. The average number of persons per room was obtained by dividing the total population in occupied housing units by the total number of rooms as reported by countries. If the total number of occupants (i.e. the total population occupying housing units) was not available, the total population figure was used in the numerator.

A room is defined as a space in a housing unit or other living quarters enclosed by walls reaching from the floor to the ceiling or roof covering, or at least to a height of 2 meters, of a size large enough to hold a bed for an adult, that is, at least 4 square meters. Rooms, therefore, may include bedrooms, dining rooms, living rooms, studies, habitable attics, servants' rooms, kitchens, rooms used for professional or business purposes and other separate spaces used or intended for dwelling purposes, so long as they meet the criteria of walls and floor space. Passageways, verandas, lobbies, bathrooms and toilet rooms are not expected to be counted as rooms, even if they meet the criteria.

In Kuwait this rate differs greatly between Kuwaitis and non-Kuwaitis, due to the different income and the different type of resident (detached house and apartment). According to the statistics of the Planning Council of Kuwait this rate was as shown in Table 2:

Table 2. Ratio between number of rooms and size of family in Kuwait

Year	Kuwaitis	Non-Kuwaitis	Average
1965	2.1	2.7	2.4
1970	1.9	2.5	2.2
1975	1.8	3.0	2.3

(Source: Planning Council of Kuwait.)

A comparison of the average number of persons per room between Kuwait and other major cities is illuminating (see Table 3). It is clear that Kuwait's rate is very high compared to other nations and specifically to neighbouring countries. No doubt this rate reflects the development level and has many social meanings. Why? Because it does not take into consideration the room size and its cultural and social factors and uses.

Table 3. Average number of people per room across the world

Country	Average number of people per room
Kuwait	1.7
United Kingdom	0.5
United States	0.5
Japan	0.8
Egypt	1.3
Iraq	1.5

(Source: The statistics of the United Nations Secretariat and United Nations Center for Human Settlements (Habitat).)

It is important to point out that this rate is no longer used when conducting planning studies because it is thought an inadequate method to test housing demand and adequacy.

It might seem obvious that a multi-storey solution would solve the problem of housing in Kuwait, and there have been many attempts by the government to present such solutions. The Public Authority of Housing Care (PAHC) went further and completed the first multi-storey public housing project in the heart of Kuwait City. The design of the project aimed to fulfill all the needs of the Kuwaiti family.

Yousef Abdul Rahim (1992) wrote that:

The government of Kuwait is seeking the following solution in the general policy of multi-storey projects as follows:

a) To utilize private sector multi-storey residential projects in the provision of housing care:

The Housing council statute number 47 of the year 1993 for Kuwaiti families to receive housing loans to purchase apartments. The law listed certain criteria that have to be met in such properties in terms of location, the complex, and minimum size which must not be less than 200 square meters.

b) To build residential complexes:

In accordance with the Housing Council this permitted the construction of housing complexes with high standards and utilities and large areas that reach up to 320 square meters. These apartments must meet the requirements of the Kuwaiti family and provide the necessary privacy needed for it. In addition, the apartments' components must be similar to those of the governmental detached house and these complexes should be built in special locations. However, the project, which was named Al-Sawaber Apartments,¹ proved to be a failure due to many reasons, ranging from design to property management and maintenance. (Rahim, 1992)

¹ This project was initiated in 1976 and designed by Arthur Erickson.



Figure 26. External view of the first residential complex Al-Sawaber Apartments
(Source: the author.)

Residents tried to adapt their flats by adopting several methods for privacy, family expansion or personalization and by using different materials, as seen in Figure 27 and Figure 28.



Figure 27. Illustration of the use of different materials to personalize homes



Figure 28. Example of where residents have used several methods for privacy

(Source: all pictures are from the author)

Kuwait Municipality's studies and survey show that Kuwaiti people do not desire to live in an apartment (Kuwait Municipality, 2004). In a survey of public opinion carried out by the Ministry of Social affairs in 1967 to test the desire of the public to live in an apartment, 96% refused to live in an apartment for different reasons: 67% refused because they are used to a detached house; 14% because of the size of their family; 6% refused because they felt it limited their ability to expand the house in the future; 3.4% liked the freedom to design the house according to their wishes; 3% preferred to stay away from neighbours' troubles; 1.7% felt that apartments lacked utilities; and 1.4% felt that apartment buildings were located far from their place of work. So, we can say that 88.4% refused to live in an apartment because of traditional reasons of familiarity with a detached house, family size and the limiting potential of the apartment for expansion.

An equivalent survey was done nine years later to measure the change in response in the public. However, it showed the 96.7% refused to live in an apartment: 70% refused because they feel used to a detached house; 18.4% refused because an apartment does

not allow them to expand; 10.3% refused because they have big families; and 1.3% refused because of worry about neighbours' troubles (Algardawy, 1978).

All indications therefore point to the fact that Kuwaitis reject the concept of living in anything but a house. The answers are similar to the respondents in this study of 2007, as we will see in the empirical work chapter. The main reasons for these answers is that Kuwaiti culture is embedded in house design; it has profound layers of rules and regulation that govern people's lives on a daily basis, which can not be changed with time or place, as it is based on Islamic philosophy.

2.14 Conclusion

As was seen in previous discussion, before the discovery of oil Kuwaitis had successfully survived difficult times and poor resources in building their houses. Kuwait history shows that the development of urban design and Kuwaiti house design was based on humanitarian and religious foundations: living in harmony with a harsh environment, the availability of materials, and the basic human needs of safety, function, privacy, sufficiency, and personalization, as well as flexibility for several alterations through the years to cope with the family extending and changes in lifestyle.

At the present time the people need to understand their basic needs as Kuwaitis in terms of house design in order that they can live within their house with satisfaction and tranquility. Indeed, the people and the government have to understand the profound meaning of a house as a home to live in. Accordingly, the following chapter illustrates the concept of home, house and its alteration. This chapter is needed to illustrate the comprehensive concept of the house; that it is not merely a constructed cubical space filled with materiality and subjectivity. Moreover, this information is needed to help

legislators and designers to establish codes and regulations that promote people's understanding of the philosophy of housing and inhabitation, and to educate people with a holistic objective understanding of how a home should fulfil their human needs and accommodate their social and cultural values and daily traditional activities.

Chapter 3 Home, House and its Alteration

3.1 Introduction

The significant objective of this study is to produce a body of knowledge that can be used to improve the current Kuwaiti housing legislation, and, more specifically, the interior architecture of Kuwaiti houses, based on the motivation of Maslow's Hierarchy of Human Needs (1954) and adaptation theories.

Kuwaitis are experiencing difficulties in adapting their lifestyles and daily activities within their houses due to the weakness of connectivity between their culture and the interior architecture design. Moreover, as we will see in the empirical work chapter (Chapter 8), the findings of this study showed that the majority of the people in the sample were not satisfied with their houses and would like to do extra alterations even though they already have done many alterations since they moved in.

Unsatisfactory interior architecture forces Kuwaiti people to carry out many alterations within their houses. It is generally accepted that all aspects of a family's life are bound to change as the family size increases or decreases, or because the family's tastes in style change over the years. Accordingly, the design of family houses should be modified as "the shape follows the function", to accommodate the family's lifestyle and its daily activities. However, no matter how flexible the design of a house, the fact is that life is much bigger than house design can manage and assimilate, and there is always room for improvement, so designers and legislators can have massive input on improving matters to promote quality by adding pleasure and comfort of life within the house. As Jeremiah Eck describes it in his book *Distinctive Home a Vision of Timeless*

Design: “Pleasure is about entertainment whereas comfort is all about enjoyment and warmth, which only a well designed space or detail can give you” (Eck, 2003, p.11). But how?

In the Kuwaiti situation, the author strongly believes that the Kuwait Municipality should introduce housing legislation that places the emphasis on the interior architecture of houses, and should make these available to every Kuwaiti citizen who is about to build their house. The booklet or brochure would provide Kuwaitis with authoritative information derived from well constructed information and an academic approach to a wide range of factors for instance:

- Cultural values and norms for the house,
- The impact of human behaviour on the house’s shape and form,
- Environmental aspects of house design and sustainability,
- Enhancing the aesthetic aspects within the house by art and design techniques to emphasise self actualization and self-satisfaction of the house and other factors that enhance the beauty and functionality of the house, such as colour scheme, lighting, textures, updated technology, etc.
- A room layout and space integration and segregation that satisfies Kuwaiti people’s lifestyles and cultural/tradition values and activities,
- Religious and socioeconomic recommendations to endorse the quality of family life within the house, and any aspects that promote high inhabitation quality and well-being and sustain people’s identity.

At the moment there is very little information in Kuwaiti housing legislation regarding interior architecture. The Kuwaiti housing legislation handbook listed only room sizes,

bathrooms and their heights, the house height, walls' setbacks and other minor matters. As far as this study is concerned with the interior architecture, the Kuwaiti housing legislation listed the following limited elements:

The area distributions and the percentage for rooms in private dwellings and typical private houses are:

1. The minimum area of one room should be 10 metres square and 3 metres wide.
2. The minimum area of the kitchen is 7.5 metres square and 3 metres wide.
3. The minimum area of the bathroom is 4 metres square and 2.75 metres wide.
4. The minimum area of the toilet is 1.5 metres square and 1 metre wide.
5. The minimum area of the corridors inside the house is 1.20 metres.

The author believes that when people know better they do better, and when Kuwaiti people know about house design and its fundamental inhabitation elements, and the profound holistic characteristics of the old traditional Kuwaiti courtyard house design, they will be able to comprehend and then utilize its psychological and physical aspects in their current house. The Kuwait Municipality and PAHC should provide complete housing legislation and produce a handbook or a brochure regarding the interior architecture, written in simple Kuwaiti local language that both educated and unsophisticated people can understand, documented with explicit and informative pictures. It is hoped that this study will produce a body of knowledge that could help Kuwait Municipality, the PAHC, legislators, designers, and decision makers to issue this type of pamphlet of housing legislation to fill the gap in the current housing legislation.

3.2 The Need for Authorized Information

In spite of the fact that there is little information in current Kuwaiti housing legislation regarding interior architecture, there are people who believe that they know everything and they do not feel that they need this type of information. From experience as a practising interior designer, having delivered such information about house functionality, cultural values, traditional housing quality, environmental impact, safety, or aesthetic matters and well-being, the author perceives that people tend not to pay full attention to these details and it is very difficult to convince them or stimulate them without official documents. People are instead more concerned about “modernization” and having materialistic and technological aspects from different cultures. So, to make this information more effective, it should be supported by the government and be lawfully authorized by producing a manual of interior architecture code and legislation. In this study the aim is to produce a framework that has a set of recommendations for improving the current housing legislation that would promote comfort, sustainability, aesthetics, safety, and socioeconomic and environmental well-being as well as functionality.

In order to understand the consequences of the story behind the Kuwaiti house, light should first be cast on what is house and what is home in Kuwaiti culture, and do Kuwaiti people and the Kuwaiti government truly differentiate between them?

3.3 What is House and What is Home?

A house is a structure or a dwelling that has walls and a roof. There are many houses but indeed there is always one home. Yet home is a reflection of cultural/environmental relations (Altman & Chemers, 1986). When it provides shelter, home is more than a

shelter. It is associated with companionship, family, relationships. It brings memories and in Arabic culture it provides serenity, love, well being and culture.

On the other hand, at the real estate agents salesmen/women are experienced in minimizing their customer's psychological and emotional attachment by calling it a house when he/she wants to sell it, but maximizing emotional involvement by calling it a home when they want to buy it. Nasser, Ujam & Ryan (1997) stated the meaning of the house as:

As initial analysis of the term “house” produces the Old English hus derived from the verbal roots hud, derivable from huden i.e., literally to hide. From these stems we get the rather rudimentary term “hut”. These understandings refer in English to questions of literal shelter and concealment. This sense of concealment and the protection associated with the term house is common to most languages. For instance, in Persian “khan-e” the term for house “denotes” as one of its meaning. However we would suggest that due to the processes of differentiation caused by social, cultural and religious evolution, “house” will then take on newer senses. These more recent sense will present more difficulties in terms of a difficult transfer of the semantic content from the language of departure. However, “khan-e” is the root for two other words, “khaneva-e and khanvevar”, both of which refer to the concept of the family. The term has dynastic sense and in this context it is used to refer to the dynasty of the prophet Mohammad, Peace be Upon Him. (Nasser, Ujam & Ryan, 1997)

3.3.1 What is Home?

Housing is frequently a symbol of home (Gurney & Means, 1993), but family housing differs from the notion of home. Housing or dwelling implies a physical unit, whereas home is the cognitive representation of a familiar place of retreat (Morris et al., 1990).

Maslow's theory (1954) of the hierarchy of human needs stated that the most important need in a human being's life is to find a shelter or space where he/she can start life safely and socially. These spaces people naturally tend to call home. It is the place where the three levels of adaptation theory are profoundly realized (Masaud, 1996). *Culturally*, when the family set the roles and boundaries in its lifestyle and daily activities, such as sleeping, cooking, praying, or any other human activities; *Environmentally*, where the house depends on the availability of materials, and the struggle to make it cool or warm enough; for example a tall high-rise building with balconies or a courtyard house with air catchers to soothe the desert harshness; and *Socially*, where a set of values, customs and attitudes towards family members or "outsiders" orchestrates the family's interaction among themselves or with others.

In order to produce recommendations for the housing legislation in Kuwait, the first part of this chapter is dedicated to understanding what home means in Kuwaiti culture, or as it is called in Arabic, *Albait*, *Almaskan*, or *Almanzel*. And what is the essential philosophy and the meaning of home regardless of its ethnic group?

3.3.2 Home (*Albait*, *Manzel*) and its significance in Islam

Home in Islam has its own characteristics and its own privacy. No one is allowed to look inside the home or look at who is living in it. Islam came with strict regulations that build protection around the home and prevent it being crossed or abused. As a

result, Muslims' homes are connected with Islamic regulation that is connected with family life and lifestyle within the house, as the family is considered the nucleus of Muslim society.

The meaning or characteristics of a Muslim's home and its significance lies not only in its construction as an architectural object or interior space that fulfils the functional needs of its inhabitants, but also in how it fulfils social and humanitarian criteria, which are also considered significant requirements in Islamic religious regulations. That is why we find Islam has given home special attention and care; not only as a building but for the Muslims who live in it. Home or *Al-bait*, from an Islamic point of view, is a community or social unit, such that this aspect and the home as building construction should not be disconnected from each other.

To start with, in Islam what is inside the home is its inhabitants' business and territory and no one has the right to interfere or interact with it without the owner's permission. Conversely, the outside of the home is considered the province of Muslim society, which is governed by equality, neighbourhood, solidarity, and the economic rules and regulations that construct the basis of Islamic society. Therefore, the exterior and the interior of the home give a unified look to Muslims' homes around the world. The interior is significantly connected with one important fact; that the significance and the characteristics of a Muslim's home are constant and never changed as a function, regardless of the time and the place, because the significance of a Muslim's home is sensual and receptive beyond what could be achieved by materialistic concerns, which can be affected by the rules and regulation of Islam. Conversely, the exterior is regarded as a variable feature that could be changed and remodelled according to the place and

the time or the environment, and that represents Islam as a glorious civilization with dynamic constituents.

El-Ekiaby (1991) stated:

As the contents of the Islamic house express its function, sociological and humanitarian criteria, therefore, it expresses its enclosure too. Consequently, the outer form of the house will be expressed faithfully. From the moral point of view the interior of the house is possessed and very private of its occupiers, on the other hand, the exterior of the building is the outsiders' the neighbors and the whole society properties. If this moral order of the Moslem society is implemented, so, the general form of the built enclosure and the built area is completed in a highly civilized form. The Functional contents of the Moslem Houses are almost similar despite the differences between the places and their natural resources, and the changes in the local circumstances as the time goes on. But the form can be changed from place to place and from an era to the other. (El-Ekiaby, 1991, 175)

From the Arabic definition point of view: *Al-bait* (a noun) comes from the Arabic verb *bata*, which means 'to sleep' and the noun *al-mabeet*, which means 'a place where people sleep', and *al-bait* which means 'tent', 'pavilion', 'shed', *Kaaba*, Mecca homeland and motherland (Barati & Ujam, 1997, p.45-64). *Alsakan* is another word in Arabic which also means home. The word *sakan* is used to denote that the house is related to a place for rest, stability, peace, tranquility and quietness (Mortada, 2003; Abarkan & Salama, 2000, in Emhemed, 2005, pp. 39–40).

Allah said:

It is Allah Who made your habitations homes of rest and quiet for you; and made for you, out of the skins of animals, (tents for) dwellings, which ye find so light (and handy) when ye travel and when ye stop (in your travels); and out of their wool, and their soft fibers (between wool and hair), and their hair, rich stuff and articles of convenience (to serve you) for a time. (Quran, Alnahl, V. 80)

Muslims believe that Allah guided them to make the house (*Albait*) as a source of rest and stability for the family while they are in the city, and tents made of animal skins or woven wool, and easy to carry around for use when travelling, and He made from sheep's and camel's wools furniture and cloth to enjoy life. All the above definitions indicate that tranquility and relaxation as well as prosperity became essential elements for people's daily lives inside the house.

A home is considered the first priority in Maslow's needs hierarchy as it is a demonstration of protection and safety, it is a place for shelter, food, respect and love; it is indeed considered a universal need for all people, regardless of their culture and background. Besides meeting their physical needs, home is vital for human beings to feed their psychological needs as a secure and private space where they can be themselves without others interfering in their private life to restore themselves spiritually and sensitively. Ilse Crawford (2005) described it beautifully when she said:

These days we expect our homes to perform on many levels. Home is more than just a place to sustain ourselves intellectually, physically, and even spiritually. But that does not mean it should not still satisfy its more primary functions.

“Home” in the true sense should be warm hearted. A place for self-love, romantic love, family love, love of friends. A place to return to, to feel safe. A place of intimacy, domesticity, meaning and freedom. To find this, we need to look into our hearts. Into our inner nature, and knit what we find there back into the fabric of the lives we live now, but in a new way, a way that is not about accumulation, but reduction, re-evaluation and revitalization. (Crawford, 2005, p.12)

Even though home has the same function in every culture, the level of satisfaction will vary from one person to another and from one culture to another according to their biological structure, psychological and physical ability, and the environmental and geographical characteristics.

The home is viewed as a reflection of several facets of culture and as a place that has many “windows” through which one can see how a culture relates to its environment. Home design can reveal many things: Climatological and environmental factors; the level of technological resources available to a society; family structure and role relationships; the religion, cosmology, and world views of the society. As with the parable of the blind men touching different parts of an elephant, each proclaiming that the part he experienced was the “true” elephant, so it is that there is no “correct” way to understand home in relation to culture/environment issues. The home reflects many faces of culture and environment simultaneously, each of which is correct at some level of analysis, but each of which is also incomplete if viewed by itself (Altman & Chemers, 1984).

In Kuwait in the past, and even now, it is true that Kuwaitis spend a great deal of time inside their houses, especially women and children. This is because of the cultural point of view, which is based on Islamic law that states:

O wives of the Prophet! you are not like any other of the women; If you will be on your guard, then be not soft in (your) speech, lest he in whose heart is a disease yearn; and speak a good word. And stay in your houses and do not display your finery like the displaying of the ignorance of yore; and keep up prayer, and pay the poor-rate, and obey Allah and His Messenger. Allah only desires to keep away the uncleanness from you, O people of the House! and to purify you a (thorough) purifying. (Quran, Alahzab, V. 33)

In Muslim society it is preferable for women to stay at home as this is considered the most sacred and safe space for the family, whether it is an extended or nuclear family. In addition, the harsh weather in Kuwait promotes indoor activities for other family members, especially children. It is inside the house where the first foundation of love and protection flourishes between parents and their children, and in return the house becomes the first school for children where knowledge about life, themselves, other people, and their culture is seeded by the parents, most profoundly by the mothers who spend most of the time with the children, and where norms and sanctions are manifested in the design, organization, and form of its spaces.

Religious and social taboos that discourage women from participation in public affairs have reinforced the need for the male-dominated extended family which limits the duties and activities of women to the domestic domain. Thus, the family area remains an important social unit for the female sector of society. Within this social order, the

individual and even the nuclear family is subservient to the larger social order which starts at the extended family and expands to the clan, the tribe and the society of believers (*Umma*), which make the individual privileged with the economic support and moral virtues of family (Samizay & Kazimee, 1993, p.99).

The entirety of these influential roles must be considered in order to achieve a successful house design that nourishes culture and family values and other important social principles that are embedded in Kuwaiti traditions. As mentioned above, Muslim people tend to stay inside the house more than they do outside it, especially in a harsh environment like Kuwait. Therefore, designers should pay more attention to all aspects of the interior architecture of the house to make it a healthy space to inhabit.

3.4 The Concept of Genotype and Phenotype Applied to Houses

According to Rajan:

Genotype of an individual has been defined as the sum total of all the hereditary potentialities that the organism inherits from the parents; while the phenotype is the morphological and physiological attributes of the organism, like the size, shape, colour, metabolic reaction rate etc. Phenotype reflects the interaction between the genotype and the environment. Since the individuals of a species may grow in different environment their interactions are different. In other words, the same genotype may interact variously in different environment and produce various phenotypes. (Rajan, 2003, p.5)

Noticeably, phenotype varies from person to person, for instance, the colour of a person's skin. This phenotypic distinction results essentially from genetic differences

between individuals. These genetic differences arise partly because of the mix-up of a gene which occurs during the process of meiosis, and partly because of the gene's inheritance from two different individuals (Fullick,1994, quoted in El-Feki, 2005, pp.59–60).

Theoretically, applying the concept of genotype and phenotype to house design, or more specifically to the Kuwaiti house as an institution, could provide a basis for a prototype of a house that would meet all the cultural, social, and economic criteria of “home sweet home”. This means that the production of a “better” if not “ideal” Kuwaiti house has to be the result of the transformation of the information (the genes) for the prototype of the Kuwaiti house. However, this can not be a random transformation; it has to express profound meaning for the people who will live in it. Indeed, at a superficial level, the house has only one meaning as a place where a human being lives, but at a deeper psychological and physical level our perception of its profound meaning varies, so each house would look different in each culture and environment because of the genes' transformation. For instance, the environment may play a massive role in determining the shape, size, orientation, or other features of the house.

As mentioned before, the main function of the house remains the same no matter where it is located, as well as its structure as a living institute (genotype) and this information or pattern will be transmitted from one generation to another. On the other hand, differences in materials, shape or form of any of the house design elements (phenotype) that are caused by environmental conditions will not be transmitted to the next generation. The learning process of the individual is another example, as this process is based on the personal adaptation of the individual to the experienced environment.

When applied to housing design, genotype is the idea of the house and its layers of functionality, form and constructions details and material, as well as the traditions, cultural norms, and spirituality that people inherit from their ancestors in learning that passes from one to another, embedded in social, educational, religious and other cultural knowledge. In contrast, the phenotype is the actual realization of the rule in different physical environments; it is the way our houses look as we perceive what is produced when the genotype is used as the seed or instructions.

El-Feki (2005, p.63) quoted Hillier about the discovery of the genotype of house, exploring the problem of spatiality in vernacular farmhouses in Normandy, and using space syntax techniques.

They demonstrated that cultural ideas are present subjectively in minds and objectively in artifacts, carrying out their analysis blindly with no information, so that social, economic and cultural information would be explored after the preliminary spatial analysis. In their research they aimed to fulfill three main objectives: Firstly, to what extent the analysis could clarify the relationship between patterns of the space and their use. Secondly, to ensure to what extent the regional and other types could be suggested by such analysis. Finally, to discover the probability that specific known traditional themes could be reproduced in some of the houses, and these themes may be clarified by such analysis. Having a sample of seventeen houses, analysing them one by one using a quantifiable method, they reached a conclusion that there is evidence of at least one underlying spatial, cultural and functional genotype defined in terms of relational and conformational consistencies, which represented themselves under different phenotypical arrangements. (Hillier, 1987, quoted in El-Feki, 2005)

Each environment produces its own 'gene' or patterns that determine the structure for the house's design to allow its inhabitants to live in harmony with its characteristics and philosophy, that is, the genotype for the house in that environment. On the other hand, the house's shape, colour, orientation and its appearance in general is considered the phenotype.

The courtyard house has the same design characteristic (phenotype) in all Arabic and Muslim regions, regardless of their demographic location or economic status, although there may be a few differences in the layout of each. This is both a response to and an interaction with the environment to adapt to climatic, physical, topographical, social, physiological, and social demands. So in Kuwait and the Arabian Gulf region the mud colour and coarse texture is the main feature, while in Tunisia it is the striking white and blue. And similarly, the reddish bricks or white-yellow stones, and the brown wooden *Mashrabeya* or *Alroshan* and the grey colour of the street pavement contrast with the blue and merciful sky in Morocco or Egypt. It is not formal harmony but it is rather substantial harmony (Rizk, 1994, p.141). The common denominator is the philosophy of the Islamic courtyard house where privacy and segregation between the outside public world and the sacred inside world is a strong principle. It seems that there is a set of rules that derive from Islamic regulations that govern and control the theme of the design of the courtyard house, and can be considered the seed of its structure and architecture (genotype). It is a kind of pattern being followed to reproduce the courtyard house which is in the genetic structure of the phenomenon.

In order to produce decent and legitimate housing legislation it is important for the Kuwaiti people and the legislators to understand the basic role of the profound meaning

and philosophy of the house as a space for living; a space one can call home. An appreciation of this concept would allow people to focus more on their house and making a house their home would be their priority. One of the common means by which people are inclined to transform their houses into homes is by alteration, so what is alteration?

3.5 Alteration

Alteration “is the state of being altered; a change made in the form or nature of a thing; changed condition” (Wiktionary, 2007). Alteration is “a change or modification” (Macmillan Dictionary, 2003) in which change means to make or become different, to replace with or exchange for another. Betru (2005, p.61) quoted Coltan (1997) that two issues are, therefore, important to the definition of alteration:

1. An action producing a change in the building including removal, exchange or installation of any item or element; and
2. An action can make the building better, worse or maintain the status quo.

Moreover, in 1978 Morris and Winter stated that housing adjustment can take four forms, the first two of which do not result in physical change.

First: normative family adaptation, where the family alters its norms and values to adapt to current housing conditions. Morris and Winter (1990) quoted Amos Rapoport (1982), who described how built forms act as a memory device for cueing appropriate behaviour, “Behavioural regularities emerge from the rules affiliated with spaces within houses (e.g., ‘don’t slam the screen door’)”. In the Kuwaiti situation usually in big families who inhabit one house, men would have their meal separate from the female

members of the family, as a wife is considered a stranger to her husband's brother and neither would feel comfortable socializing during the meal.

Second: structural family adaptation, which includes compositional and organizational adaptation of the family to its current housing. For instance, in the Kuwaiti family house, male servants are not allowed to enter the family house, they have their own suite in the annex.

The other two forms of housing adjustment result in a physical change: residential mobility, including migration and intra-urban mobility; and residential alterations to make the current housing more suitable (Morris & Winter, 1978), for instance, adding an extra space in the living room to hold a weekly family gathering or adding a *Dywaniya* for men's gathering.

3.5.1 Space enhancement or developments

Enhancement means to improve something and make it better (Wikipedia, 2007) or the process of making something better than it was before (Macmillan Dictionary, 2003). In general usage, improvement is an alteration resulting in a betterment of the existing situation. It is subjective in nature, and implies very little about the building before improvement, whilst emphasising building improvement after alteration.

Families and households contribute to shaping and altering their housing through adaptation of space utilization and changing of existing structures or construction of new structures in an effort to adjust to familial, social, and political changes (Birdwell-Pheasant & Lawrence-Zuniga, 1999). In the construction industry, an improvement occurs where the intention is to increase the efficiency in the use of the building by

adding facilities that were not previously present (Golton, 1997 in Betru, 2005, p.53).

The definition of improvement generally includes two factors:

1. Making the house better from the point of view of the occupant; being an intentional, rather than unintentional, action, and
2. An action that leads to the condition of something different from how it was before the improvement action. (Betru, 2005).

3.5.2 Renovation

Renovating or redesigning the house is fixing or redecorating any sort of structural aspect in the house, whether restyling the furniture, mechanically or electrically in case the whole house or part of it becomes out of order or out of fashion. In house renovation, Kuwaitis are facing a dilemma, in that people like to renovate their houses but yet try to avoid it for several reasons.

Firstly, people like to renovate simply to update themselves in terms of design and showing off their wealth and good taste and the household's social status, as social status is also conveyed through housing design and adornments. Vernacular architecture, or ordinary local housing, often emulated sophisticated housing such as high-style architecture designed by architects suggesting that housing forms and amenities are efforts to communicate material wealth and status to those outside the household (Ennals & Holdsworth, 1998). But the undesirable side of this dilemma is the reinforcement that involves dealing with the unprofessional workers and contractors which make the whole process of renovation very tiring and time and money consuming.

Secondly, people try to avoid this sort of renovation as it would involve a “stranger” working inside the house which causes discomfort and a lack of privacy. Often the members of the household do the renovation jobs by themselves to avoid this issue.

On the other hand, major renovation would take place usually when the house gets very old or when more spaces are needed. In addition, Kuwaiti people do not like to move neighbourhoods, so they prefer to renovate and make several alterations to the house instead of moving.

Thirdly, Morris quoted Irit Sinai (2001) when he described the third factor, giving Ghana as an example. He found that:

The degree of satisfaction with housing in Kumasi, Ghana, predicted change, although shelter characteristics, tenure, and the use of housing for income were associated with the decision to either move or modify housing. If the layout of a dwelling is not well suited to the resident family, the family may either make changes in the dwelling, move, or compensate for the dwelling by making changes in other aspects of family life. However, adaptation of the dwelling is not entirely controlled by the members of the household because housing is a resource that is embedded in a context of external constraints such as government building regulations and economic markets. (<http://www.family.jrank.org/pages/817/Housing-Housing-Symbol>, p.3)

This is true in the Kuwaiti case, as altering or adjusting the house is not an easy task because it requires a lot of bureaucratic paperwork to get permission from Kuwait

Municipality that this specific alteration would not conflict with housing legislation, especially in the governmental public houses.

3.5.3 Transition

Transition is the process of changing from one form, state, activity, or place to another to clearly alter the form or appearance of a thing to change its nature, function, or condition, to convert it (McCreight, 1996). In the case of Kuwaiti houses this stage will take place if the family expands and the need for the space is a must, whether because of increasing family members or needing a family gathering place for social events. For instance, some people would cover the courtyard with a light aesthetic material to transfer the courtyard into a functional room to hold a wedding or a coming from Hajj reception party.

3.6 The Concept of Alteration

Conran argues:

Designing for life is difficult when you set up home for the first time you don't know what direction your life may take, how and where you will work, whether you will marry and have family? And with each successive stage things don't automatically become any clearer. What is clear is the need for a home to be flexible and adaptable is only likely to increase with time. (Conran, 2003, p.22)

Betru (2005), quoted Golton (1997), saying that consideration of dwelling alteration and the idea of home is particularly important as the dwelling will be in use and remain a home for a considerable time. The concept of home influences dwelling alteration in a simple way; the occupier has a cognitive concept of home, which they compare with the

reality of their physical dwelling. Assuming a home is desired, a significant mismatch between the concept and reality promotes occupiers to change their dwelling to match their concept of home (active adaptation) or change their concept of home to match their dwelling (passive adaptation).

Golton (1997) stated that there are three factors that influence dwelling alteration:

- Push influences - actively encourage dwelling alteration, for instance, the need to add a new room or kitchen;
- Pull influences - the factors preventing changes, such as lack of money;
- Prerequisite influences - factors necessary for the alteration to occur. If they are not present, alteration is unlikely to arise.

At first, push influences start the processes of alteration in people's lives within the house, and then pull influences and prerequisite influences are largely contingencies. Push influences, therefore, represent human needs. First, they look at basic functions: does the house serve the inhabitants' needs and their way of life? There are five factors that are significant and influence people to alter their house.

3.6.1 Purposeful aspects of alteration

Functional factors are based on how the house interacts with the people who live in it and whether it fulfils the requirements of their daily activities and lifestyle. So alteration enhances the adaptation process between the inhabitant and their house.

3.6.2 Profitable and financial aspect of alteration

Second, economic factors mean that some people add rooms or a flat for financial reasons, such as renting. For instance, some newly married couples prefer to stay close to their families, so they would rather rent a flat within the interior area of Kuwait City. Accordingly, a family that has extra space in their house can build a couple of rooms, bathrooms, living room, and small kitchen with room for a maid, enough to accommodate a newly married couple starting their life, so fulfilling Maslow's human need of love and belonging as they will be close to their families and friends. On the other hand, there is a financial benefit for the family who made the alteration.

3.6.3 Difference of potential as a reason for alteration

This factor relates to Maslow's hierarchy of human needs. The satisfaction derived then depends on the interplay between residents' expectations and the degree to which the altered housing environment fulfils these expectations. This is precisely what happened when Kuwaiti families moved to governmental houses. They felt "unworthy" or neglected as the materials used for all houses in the neighbourhood are the same, as are the layout of the rooms, and design elements in terms of colour, shape and form. All houses are standard, with no sense of exterior or interior architecture, and no aesthetic features. Furthermore, there is no room for self expression as the house is owned by the government and the resident it is not yet the owner and is not allowed to do any alterations. Eck puts it this way:

Houses in subdivision often seem similar because they tend to face the road like soldiers in formations rather than taking advantage of unique quality of each site. All too often such houses have an anonymous quality that makes them seem as if they could have been built anywhere. (Eck, 2003, p.11)

3.6.4 Personalization as a reason for alteration

Fourth, personalizing and marking the house that a person occupies are ways of expressing, establishing, and maintaining self identity. People put their personal stamp on places not only to regulate access but simultaneously to present themselves to others, to express what they are and what they believe, and thereby establish their distinctiveness and uniqueness. Personalization in relation to identity expression occurs in a variety of places – bedrooms, offices, homes and public displays. Primary territories such as the home are excellent examples of how we use territories to portray ourselves to others (Altman & Chemers, 1984).

In Kuwait, as the respondents to the survey indicated, people use materials as a way of telling people who they are. For instance, in the interior architecture of the houses the use of marble for flooring is considered a sign of luxury and modernity beyond being merely flooring material, while for the exterior the use of limestone is considered old-fashioned and cheap looking and minimizes the owner's identity. This is the main reason that governmental public houses are not considered desirable, as they are all covered by limestone and have the same interior architecture where there is no room for personal expression. This is especially important in a wealthy materialistic culture like Kuwait, where materialistic elements are extremely important as they are the only way people have of expressing their individuality and showing that they belong to a specific tribe or group. Moreover, personalization shows that the territory is controlled by the occupants. The desperate need for personalization prompts people to make several alterations in their houses to give them pride, well-being and a good self-image.

3.6.5 Lifestyle changes affecting alteration

Fifth, housing adjustment is part of more general adjustments that people make as they go through life. According to Darwin, life presents a continuous chain of struggle for existence and survival; life is a continuous process of overcoming difficulties or of making adjustments (Wikipedia, 2007).

On the other hand, according to Akbar (1992, p.433) there is another reason for this constantly changing physical and physiological phenomenon. He stated that in traditional courtyard houses the tasks within the building are constantly changing according to its inhabitants' physical, functional, and stylistic needs (with the exception of some tasks like the mosque). So a house could become an office, and a school could be made in to a hotel, for instance. In contrast, these days when designers start the design process for any project they start with the task and they design the space to facilitate that specific task, whether it be eating, sleeping, educating, or business. The result is unchangeable buildings or houses that are difficult to alter to fit current or future needs. Even those who say that function follows form are in fact talking about a single task, they do not deal with task as a variable factor. And this is to be expected as these theories came from a different culture, where the environment is perceived as the ultimate purpose or goal. This does not mean that we should not start with the task on any account, but when designing a building or a house, we should at least consider how the task for this specific space will change in the future, so we have to aim for the most giving and adaptable environment, with the least expense because we as Muslims believe that the environment is a means not a purpose or goal.

3.7 Why do Kuwaiti People Constantly Alter their Homes?

Modern influences from globalization have meant that the Kuwaiti people face a dilemma; they like the appearance of Western houses, and have the money to build them, but Western houses are based on a different genotype that does not fit either the Kuwaiti culture or their daily lives as Arabian Muslims. This conflict means they are constantly altering their houses, which results in discomfort due the constant change and adjustment.

The results of the empirical work of this study indicated that 31% of respondents in both state-owned and private houses have done renovation or alteration in their house. The reasons varied between adding a room to accommodate a new family member, or segregation for privacy, or changing the general appearance, getting rid of balconies, or adding automatic shutters on the windows to minimize the sun's heat and dust caused by sand storms.

Dwelling alteration can be seen as the process of active adaptation by the individual in order to fulfil a number of criteria, discussed in the following sections.

3.7.1 Support and maintenance of economic investment in the dwelling

According to the responses obtained in this study, 6% stated that they have added an apartment somewhere in their house as a source of income to help them to cope with the expensive lifestyle in Kuwait. This tends to happen when the family gets bigger and parents are forced to find another income, so sacrifice their comfort and privacy to have other people "strangers" live with them in the same house.

Renting out an apartment may also take place when the most of the children have married and moved out of the parents' house, leaving them with a huge house with plenty of unoccupied space. In such circumstances the householder may decide to make some alternations to allow for the privacy and segregation of the rented part, such as making a separate entrance and parking lot, adding some bathrooms and kitchen, and adding room for the maids and laundry.

3.7.2 Support of domestic activities within the dwelling

A Kuwaiti householder may alter their dwelling to add rooms in order to segregate children as they grow up (as in Islam's regulations children of different sexes should have separate beds and preferably bedrooms, from age seven, or to make space for an extra maid), or to add a safe play area for children. Sometimes they will enlarge the living room by taking part of the front yard or sometimes by combining the dining room and the formal reception room to have big hall to hold the weekly family gathering. In the case of governmental houses the separation of the main kitchen is considered the most significant alteration for the family, as it is considered unacceptable to live with the cooking odour inevitably generated by constant cooking for a big family and social events, which play big role in the Kuwaiti family's lifestyle.

According to a study undertaken in Kuwait by sociologist Al-Thageb (2002, p.116), in a study done in the United States of America, it was shown that one of the important methods in communication between families is visiting. In the case of Kuwait, it has been found that 35% of the people visit their relatives daily and weekly. By analysing the data it has been found that there is a positive relationship between the social and economic status or class of the family and the amount of visiting between relatives: the higher the socioeconomic status of the individual family members, the more likely it is

that visiting takes place daily between the family members. For instance, 48% of those who belong to a high socioeconomic status family visit their family every day, while only 26% of those who belong to a low socioeconomic class visit their family daily. Visiting activities are affected also by demographics; most Kuwaitis live in Kuwait centre, and specifically in the interior areas. Families who live in these areas are considered to be of high and middle high class, have transport available, and an abundance of free time as they have servants who serve them every day and technical facilities in their houses.

On the other hand, in the same study by Al-Thageb the survey showed that 11% of Kuwaitis spend their leisure time with their relatives. Some 10% of them spend their time with friends, while 76% prefer to spend their time with their families inside their own homes. Also, the study shows that 61% of Kuwaitis spend their time inside their homes, and 39% spend their time outside. Since the house is the space where Kuwaitis prefer to hold their social life, it should be durable and flexible enough to nourish the need for these crucial domestic activities.

3.7.3 Support and maintenance of the physical condition of the dwelling

Twenty-one percent of this study's respondents mentioned that maintenance is the main reason for alteration and remodeling. Reasons vary between repainting the house and rooms, to maintaining the plumbing or electrical systems in the house. Equally, the motive might be to update old materials with new ones to enhance the occupier's status and self image.

3.7.4 Support of the creation of a home through reducing the mismatch between the home concept and the physical dwelling

The most significant reason for reducing the mismatch between the concept of home and the physical dwelling is the need to add rooms and bathrooms for family members. It was found that 31% of respondents needed to add a room such as *Dywaniya* (men's meeting place), a maid's room, or rooms for the children, and other rooms that help occupiers to adapt their house harmoniously to make it home.

This is especially the case with the old problem of overcrowded housing in Kuwait. Since 1979 the problem of having a governmental house, which seems to be the most available option for Kuwaitis in general, is that the family can not take the house as soon as the couple get married, but it takes them 5–15 years after application. So they live with the husband's parents or they rent a flat or floor within the interior area of the city. With the family expanding and family members increasing, this delay for a house becomes unendurable for the family that is utterly desperate to have a bigger space to live comfortably and healthily. When the family eventually moves to the house, and reality sets in, the mismatch between their longed-for concept of home and the actual physical dwelling begins. There are rooms and bathrooms to be added, a playground becomes a must, and decoration and personalization needs to take place.

On the other hand, in the case of private housing, a newly married couple's dreams of their house may be taken from design magazines from which they cut out pictures. These thoughts are crushed when reality hits. In an interview with a famous architect in Kuwait, taped when the author was doing his Masters degree, he said:

All these houses [pointing to many plans], either we could not complete them because their owner keep changing in their design, or houses they have build but not completed due the house is very huge and their owners were not able to complete the build construction because they are broke, or houses build and people move in and they moved out of their house due the major alterations they want to make as the house does not suite their lifestyle and basic human needs and they want to redesign the whole house interior architecture. (Al-Banay, 2000)

The mismatch grows when people dream too much and fantasize about their requirements for the house, whether they have got their fantasy from a home design magazine or from a friend's house or from a different culture.

Traditionally, books and magazines about home design depend on dramatic photographs of houses and their interiors while the texts explain what the reader is looking at. Besides describing the materials, features and finishes, the better publications talk about the underlying design principles, such as proportion, lighting, colour and style. But few if any devote much attention to the human drama that goes a long while the making of the house. (Connel, 2004, p.1)

In summary, then, the needs of family housing to suit lifestyle and activities can not be understood unless the whole configuration of influences that lead occupants to alter their house is considered, not only at a specific instant in time but also at significant times in the past. There may be strong pressures that push a family to give at least some weight to traditional factors even if their norms are very unusual.

3.8 Conclusion

Frequent and regular family interactions associated with daily acts of living (e.g. food preparation, sleeping, childcare) or repetitive family rituals held in a specific place can contribute to a person's familiarity with their home or a territory. The place that is home must have a regular physical appearance so that it is recognizable. Too much alteration in the place will not elicit enough recognition over time to generate a sense of familiarity. Some stability in the environment may exist, but stability can also be controlled by the family. For example, furnishings in a house are often arranged in patterns and allowed to remain for a period. This regularity permits recognition of the place as familiar rather than strange. Thus, people act as agents in the construction and arrangement of the physical dimension of home (Douglas, 1993).

Changing place or space transformation is difficult behaviour that people prefer to avoid. In Kuwait, due to the lack of understanding of the people's needs this is not addressed in housing legislation; households have to deal with alteration constantly to transform their houses into homes. Such constant alteration leads to unfamiliarity and instability.

The problem with the Kuwaiti family and the Kuwaiti Government and Municipality is that they disregard exactly what they really need to live in the desert environment, surrounded and raised in a profound culture embedded in very sensitive yet profound layers of religious norms and regulation. They also fail to remember to leave some

space for a changeable future and the unpredictable long journey of habitation within their house.

To improve Kuwaiti houses, a high level of professional cooperation between interdisciplinary design committee, legislators, and the government as well as participation from the people themselves has to take place. In this cooperation they need to consider the Kuwaiti people and their interaction within their house as it is an integral part of the design process. Both designers and legislators need to carefully consider the human values that are an essential seeds for an ultimate Kuwaiti house design, as this is the only way to improve the current housing legislation.

Little effort has been made in investigating what is the core of the human's need to alter their houses. In contrast, studies have pointed out that the family growing and the housing deficit has a very strong correlation with transformations. However, the underlying reason behind peoples' alterations to their houses is the interaction between them and their house, which is their main environment. In other words, alteration is a radical process of adaptation that starts as soon as the inhabitants step inside their house. For that reason the coming chapter will discuss the idea of the adaptation of human beings within their houses to distil the advantages of adaptation theories in building a body of knowledge to improve Kuwaiti housing legislation.

Chapter 4 Adaptation

4.1 Introduction

The process of adaptation is involved in every aspect of the lives of all organisms, therefore adaptation is a natural process human beings carry out every day of their lives. We all know what it means to adjust to a new situation, a new house, a new school, a new boss, new technology. We started adapting when we were infants, and we have continued to make adjustments in our lives ever since. For just as flexibility, adaptability, and creativity are essential to the success of designers, engineers or any profession, these qualities are also essential to everyone's well-being. We all reinvent ourselves as we move through life's passages. We modify our wardrobes as the seasons change. We create new environments as we maintain our homes (Eldon Katter, 2005). For thousands of years human beings have been adapting to their environment, and at the same time human beings have adjusted the environment to suit their needs.

So what does *adaptation* mean?

Adaptation, in biology, has several meanings. It can mean the adjustment of living matter to environmental conditions and to other living things either in an organism's lifetime (physiological adaptation) or in a population over many generations (evolutionary adaptation). The word can also refer to a trait that is

considered an adaptation. The ability to adapt is a fundamental property of life and constitutes a basic difference between living and nonliving matter.²

4.2 Human Beings and Adaptation

According to Masaud (1996, p.90), all the different shapes and forms in the environment that surround us are the result of interaction with that environment, as that environment demands function to adapt and live with it, and these forms are the results of the function and interaction. We design our houses according to our needs. The form of the house takes its initial shape when it is a floor plan in the first design stages; eventually, it starts to change little by little as the house becomes a reality and then when we move in to it and through the years, our needs change too. As a result, the layout of both the interior and the exterior of the house may change its form and shape as the house must adapt in an equivalent way to the three hierarchical levels of physical adaptation, social adaptation, and cultural adaptation. In return, the relationship between our environment/houses and ourselves is a two-way one; we design our houses and we live in specific environments but at the same time we arrange our lives around them. As Crawford (1998, p.72) quoted Winston Churchill's description of this relationship, "We shape our buildings, thereafter they shape us".

The aim of this chapter is to understand these three levels of adaptation in Kuwaiti houses more deeply. This will demonstrate the characteristics of the profound impact and interaction between human beings' social/cultural daily life and their houses and shed light on all aspects of Kuwaiti daily activities and lifestyle. Thus adaptation theory

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would be the means and the instrument for designing an improved framework of Kuwaiti housing legislation.

4.3 Physical, Social, and Cultural Adaptation

According to Masaud (1996, p.90) there are three levels of adaptation hierarchy, physical adaptation, social adaptation and cultural adaptation. The first level relates to the terms of protection against the various physical forces. Second is social adaptation, which is concerned with how to live within a group of people under a set of rules, norms and beliefs. Third is the cultural adaptation which is a response to the various aesthetic and symbolic values that a society has evolved over time and which are mediated by language, ritual and tradition. Thus our house designs will be successful, meaningful, authentic, and will be more appreciated if they respond to our various evolutionary processes of adaptation.

4.3.1 Human scale honoured by physical adaptation

Al-refa'y claimed:

Considering that architecture in the course of its various phases of development is aimed to ensure human requirements and needs, and that there is a close relation between man as living entity and the material environment surrounding him, we find that the urban and architectural formation, including volumes, spaces, illumination, shades, and colours, must proceed from the human scale and what it means of physical dimensions and human feelings. Hence, there should be a steady balance between such architectural formation and the human living in it. Otherwise, that will reflect negatively on his feelings, disposition, and behaviour. We have in our urban and architectural heritage lots of evidences

showing how our forefathers managed to produce such remarkable balancing, and how that reflected upon man's relation with his social environment, and hence on his behaviour and his mood. (Al-refa'y, 1991, p.121)

By following Islamic creed and values, in the past Kuwaitis overcame the limitations of the available materials and could survive the harsh climates and lived physically, socially and culturally in harmony with their environments. Designers and legislators have a duty to follow what our grandfathers left for us in terms of house design and building legislation and as designers, we have to be keen to pass this knowledge to the next generation to keep this fortune alive as our ancestors did.

In Kuwait, people in the past used to live in groups based on their professions and each group was divided into subgroups. Builders were divided into *Alostath*, which was the architect who did not know how to hold the pen as he used his arm as a measurement tool, workers who mixed the mud with straw to make bricks that make the interior of the house cool in summer, and porters who used to bring the materials. All these groups would live in one alley and were called *Albanene*. They passed the knowledge and skills of their professions to their children; so the skills, knowledge and techniques were built up cumulatively. The same would be true for the other professionals (Albany, 2000).

Accordingly, the knowledge of the adaptation process would be passed from one generation to the next to keep the culture and its values alive for centuries. For instance, Morocco's topography makes it more exposed to the strong winds of the Sahara that blow fine particles of sand across the land, shaping them into piles that continuously shift and change. The winds move over plains and mountains, swirling and spinning into narrow passes, finding their way around the various ranges, and out again across

the plateaus. On the rocky slopes of the mountains the houses are constructed with limestone; in the lower regions they are made with brown clay bricks and ‘pise’ or earth rammed into wood forms. Doorways are recessed and shaded; windows are high and small, with roof terraces that provide extended living spaces (Moore & Moore, 1995, p.19).

Thus, knowledge of adaptation in any culture is transferred from one generation to another. For instance, skills and crafts in building systems, materials adaptability, the design and planning process, and the regulations about building a shelter or a house are all considered physical adaptations and have contributed to civilizing the human’s lifestyle.

4.3.1.1 House design adaptation with nature and environment

Muslims believe that the earth is created by Allah to serve human beings, and ensure their vital requirements and needs, and to be for them a source of blessing and well-being. Therefore, it is a duty of the Kuwaiti designers and legislators to deal with the elements of the natural environment in a constructive and realistic way, by ensuring traditionalism of form between the elements of the house and the different features of the natural location, with all the factors involved in it, in addition to the configuration of the site, along with the main constant factor of the natural environment, that is the climate. This includes:

- Dealing with the sun, the source of light, warmth and life, together with working to reduce the effect of its scorching heat, especially in high summer, through the organic formation of the structure for the interior architecture of the traditional courtyard house.

- Control over the air circulation due to its importance for ventilation, through study of the openings, their dimensions, and their directions, and also the use of the interior spaces, like courtyards, which act as natural heat control just as they help to introduce such natural comfort elements as water and trees into the house.
- Dependence, as much as possible, on climatically-suitable building materials, produced from local raw materials (Al-refa'y, 1991 p.129).

It is not easy to live in the desert as temperature extremes of fifty degrees all day long are possible. There is no humidity or rain to help to moisturize the earth so the sun heats the ground in a matter of minutes, but the dry air releases the heat during the night. Desert house designers must take into consideration the high temperature, aridity, availability of building materials, site orientation, and the spatial flow of the house (Moore & Moore, 1995).

In the general adaptation processes taking place in Kuwait before the discovery of oil, Kuwaiti people tried to maintain themselves over time to survive the desert. It was extremely hard to cope with the desert's harshness and low fertility. They turned to the sea as a second source of living but the sea was no kinder to them than the desert, so eventually they adapted to it in all possible ways. Householders had to spend four to six months diving for pearls and leave the family at home depending on themselves to survive with very limited materials and ruthless weather. As a result, people built small houses made of locally available materials that required less maintenance, and respected their environment and their budget (Alkhossy, 1972, p.201).

A more specific example of physical adaptation in Kuwaiti houses is the courtyard. It was used as a sacred protected space for family members away from the intrusion of outsiders, and a safe play space for the family's children. The courtyard became a getaway space for fresh air and outdoor activities, which reflected the family's taste in gardening and decoration. It was also a cooling environmental system when dampened white big cotton cloths were hung on ropes around the courtyard to humidify the intense heat. A small area would be used for vegetation and a place for raising animals as a source of food to help them survive while the father was away on his long trips. So they coped physically to provide comfort and protection for their bodies (Al-Banay, 2000).

Samizay and Kazimee (1993, p.102) described the rooftop space in Islamic cities like Kabul and Lahore. There, due to the situation of climate and indigenous Islamic culture, the rooftop space complements the spaces of alley and courtyard. People use it as social space for family gatherings. In fact, during the summer they use the rooftop as space for sleeping to avoid the heat in the rooms; and in the winter when the alley is muddy and a large part of the courtyard is shaded, the rooftop functions as a sun deck where social activities can take place and be a substitute for the courtyard for women and the alley for the children.

The same is true in post-oil Kuwaiti traditional courtyard houses, the roofs might be used for linking with neighbours to promote more sociable interaction. These roofs and space were delightfully defined and ornamented by privacy parapet walls and highly decorative grills.

On the other hand, Tunisia demonstrates another example of adaptation to nature and climatic conditions as Moore & Moore (1995) stated:

A great deal of resourcefulness and ingenuity is required to live in a land as hot, arid and empty as the Sahara. The Tunisians solve the problem of roofing with no available wood by using vaults and domes created from limestone blocks. They use the thickness of limestone and earthen walls build into south-facing hillsides, or carve out troglodyte communities, to produce stable interior temptress. And by staggering the heights of their gardens to create shade, a long with employing terracing and irrigation, they have made productive agriculture a reality. Their vital and creative approach to living in a harsh desert environment has inspired organic styles of architecture that not only meet basic needs but also celebrate forms and shapes that reflect and merge with the natural landscape. (Moore & Moore, 1995, p.19)

4.3.1.2 Physical adaptation and materials availability

In any place in the world, availability of material as well as the climate, geographic location, and environment influence the nature of the dwellings. People use material that is to hand like limestone in Tunisia, mud and papyrus reed in Egypt and Iraq, and snow blocks in the Arctic regions.

The majority of traditional Kuwaiti houses were made of mud brick (adobe). It is an excellent building material in a hot, dry climate because it has a higher heat resistance than concrete (Kamal, 1994, p.266). Sometimes sea stone would be used to build the house. Sea stones were desired because their foamy texture helped to slow down the heat transmission and helped promote circulation and ventilation in the house. At night,

cool air would penetrate the airy spaces inside the sea stone, and during the day it would work as an insulator for the heat from outside the rooms because of the cool air that was still inside it (personal communication, 2000). The walls were also covered with limestone to help the cooling process in the house because of its high ability to absorb moisture. When limestone is exposed to dry weather, the moisture evaporates, decreasing the temperature (Abdullah, 1994).

In direct contrast to the desert with its intensive heat are the houses in tropical climates where the temperatures are high but with a lot of rainfall and humidity. In Japanese houses the skeletal nature of the pillar-and-lintel construction is evident, and sometimes emphasised. Few attempts are made to disguise the building materials, which are usually wood, stone and ceramic tiles on overhanging eaves (Scott, Evans & Keane, 1999).

In the late 1800s, people who lived in Sand Hill in central and western Nebraska built their houses of meadow hay bundled, stacked and pinned; these houses were stuccoed inside and out, to act as insulation from the long harsh winter. Walls made with bales of straw go up quickly. During stacking, they are pinned with rebar, steel rods usually used in reinforced concrete, or wooden stakes that hold the courses together (Moore & Moore, 1995, p.33).

Textile and wood were the only significant materials for the nomads living in harsh climates in the Eurasian steppe, a massive area of grass stretching over 3,000 kilometres from the Caspian Sea to central Mongolia. These available materials have served pastoral nomads who live in this area like the Kazakhs, Uzbeks, Kyrgyz, Turkmenia and other Mongol tribes for ages. The *yurt*, their circular dwelling unit, is flexible and

movable; made of wooden, lattice frame walls across which are laid arc-shaped wooden poles which shape the roof. The wooden frames that make up the fence of the *yurt* are coated with wool and reed mats strapped in place with rope or webbing bands. And indeed, the same wool they use to build their *yurt* has been worn traditionally by the nomadic herdsman. They wrapped the wool tidily around their bodies in the same manner they wrapped their homes; which created strong relationships and profound appreciation for this limited material, and clothing became an offshoot of the home, or vice versa.

Wool is also an example of textile use as an adaptable dwelling material for the Bedouin nomads who occupied the desert in the Middle East and North Africa for a long time. They use camel and goat hair, as the natural weathering of the wool causes it to swell when it rains and makes it waterproof. Another characteristic of wool is that it resists fire, making their dwellings safe when they had a fire inside their tent to keep them warm, cook, or for roasting their coffee. The black tent, the *yurt*, and the tipi are formidable dwellings ideally suited to the hostile environments from which they offer shelter. All can be packed down for transport and erected or dismantled quickly and with ease (Topham, 2004, pp.8–10).

4.3.1.3 Conclusion of physical adaptation

By understanding and interacting responsibly with our surroundings, native man and recent human beings can employ the available resources with some development and make them serve for survival, no matter what kind of environment they live in. The fundamental need for human beings that influences their decisions in choosing their homes is the availability of food and water, then shelter to keep them safe from the different kinds of climate, danger from animal attack and thieves, or topography. After

that, it is the availability of materials that allows us to maintain our lives for centuries, as the Bedouin used wool and the Japanese light material that made their houses light yet safe from the frequent earthquakes. Human beings vary from one culture to another in their perception of the dwelling that depends on their endless desires and the influences of the natural environments that they inhabit.

4.3.2 Social Adaptation

According to Kett, Trefil, & Hirsch:

Learning the customs, attitudes, and values of a social group, community, or culture. Socialization is essential for the development of individuals who can participate and function within their societies, as well as for ensuring that a society's cultural features will be carried on through new generations. Socialization is most strongly enforced by family, school, and peer groups and continues throughout an individual's lifetime. (Kett, Trefil, & Hirsch, 2002, p.444)

Social values and regulations are important for human beings; these values become the map or the structure and guidelines for their way of life inside and outside the house. They differ from one society to another, as the human being's happiness, comfort, and appreciation for aesthetic aspects is different too. In Islamic society, Islam's values, creed, and regulations are the main source for the individual's social behaviours, tradition, and social interaction. This level of social adaptation is concerned with harmony and co-existence through these regulations in the relationship between the individual and the group, whether this is family or neighbourhood.

In the following section the three most important elements that have direct influence on the structure of the social values that in turn have influenced the design for the human being's shelter will be discussed. These three factors are privacy, simplicity, and personal space and territoriality. Because this study is concerned with Kuwaiti housing it is necessary to understand the basics of the social lifestyle and its social values that are governed by Islam, which as a Muslim tradition, regulates everything in the individual's life.

4.3.3 Social interaction related to Kuwaiti culture

Previously, the Kuwaiti family's lifestyle was dictated by their class level and economic status, there were different levels of affluence created by the type of job bringing income into the home. Because of Kuwait's location on the Arabian Gulf, the major resource was the sea. Communities depended upon resources brought in through diving for pearls and trading with other countries. The traders in charge controlled the money and constituted the upper class. Traders would loan families money while the men of the house accompanied them to sea for four to five months of the year (Alkhossy, 1972). After the diving season, the men would work in different jobs such as pastoral, farming, builders, portages or any manual job. These workers and their families made up the lower class.

The community members all supported the mosques and activities within them. They also provided for the needs of the priests (*Emam*) and their families. In this type of community where fathers were away on diving expeditions, there was a sense of interdependence created between households and their family members. Families were poor and needed to pool resources. The women and children supported each other with the task of taking care of the home and family. This interdependence established a

warm, social interaction and loving environment that brought them closer together (Al-khars & Al-aquroruah, 1999).

Corresponding with these needs, they were taught through Islam how to support and help each other. It was part of a loving brotherhood to visit one's neighbour and take care of their family if they were ill. In turn, they would help prepare for a wedding (cleaning, preparing food, etc.) and return the favour when needed (Quran, Surah Al-aser, 104).

Nowadays, however, Kuwaiti people have the same regulations and norms but they are less practised, as the prosperity brought by the discovery of oil means that the environment and houses are not being designed to promote such cooperation and social interaction. Now, fathers and sometimes mothers are both going to their regular jobs from 8 a.m. to 2 p.m., and sons and daughters go to their school or job. They may only meet for one meal a day and rarely interact with each other within their own houses; as a result there is almost no interaction between them and their neighbourhoods.

4.3.3.1 Simplicity

Living in simplicity is an Islamic norm and highly encouraged in the Islamic creed. Extravagance is strongly discouraged, as Muslims believe that over-spending is an evil act that is prohibited. This includes not only owning materialistic objects but also living extravagantly in terms of housing design and spending a lot of money on furnishing and expensive materials. Therefore, the spirit of simplicity must reveal itself in the movement and formations of volumes in both the interior and the exterior, as also on the expressive façade, in the house materials and in the ornaments and painting used. The house should be a safe place to inhabit for the family, not a realm to show wealth and an

interpretation for pride and arrogance as this attitude would hurt the poor and engage people with vanished materialistic matters. And what the sights of Islamic architecture reveal of simplicity in the aesthetics of formation gives such architecture its distinguished charm. As an example of this, the venerable Ka'ba itself, which Muslims' hearts and souls turn to, day and night, for all its being grand and sacred, is but a plain cubic stone building (Al-refa'y, 1991, p.121).

But at the same time Maeda argues that nobody wants to have only simplicity, as without the counterpoint of complexity, we can not recognize simplicity when we see it. Our eyes and senses thrive, and sometimes recoil, whenever we experience differences. Acknowledging contrast helps to identify qualities that we desire – which are often subject to change. We know how to appreciate something better when we can compare it to something else, which illustrates the fact that simplicity needs complexity (Maeda, 2006, p.45).

It is true, for instance, that the complexity of Islamic rules and regulation that govern a Muslim's house design, contrasts with the simplicity of the courtyard house design and its adaptability that accommodates the desert environment, limited materials, and profound culture that rules the social lifestyle and inhabitation within the house.

Simplicity does not mean abridgement in the architectural achievement. Rather, it means the state of being coherent and well-balanced, in such a manner that leaves in the mind of its seer an instant awareness and a clear grasp of its constituent elements and their implicit meanings without tension or exertion, and that is manifest itself in a great quantity of Islamic urban achievements. (Alrefa'y, 1991, p.121)

4.3.3.2 Privacy

Privacy is a critical issue in the Kuwaiti household. Privacy is a vital requirement that people handle differently. There are times when people need space and to be alone, and other times when they would like to interact with others as a group; in all cases people are considered under a privacy umbrella. That is why having private space within the house is crucial.

No matter how large or small a house, the need for different levels of privacy is a critical design element. A home may look very beautiful but actually be quite unlivable in because there is no place to be alone. Or it can go to the opposite extreme, with every space so separate that there is no sense of focus, no central gathering place. If a house is to work well, it is important to place the main living areas where they can be seen easily from several other places. The main spaces gain much of their vitality from their visibility (Susanka, 2000, p.84). No wonder the courtyard house was successful.

Privacy is an important factor of the built environment in relation to social life. The required levels and forms of privacy vary from one society to another according to the types of social life that dominate – religion, tradition, and so on. In every society, there are social norms and values that exist to preserve and protect these levels.

As far as this study is concerned, in respect to Kuwaiti housing it could be concluded that the need for privacy has deeply influenced the design for all society. In the design aspect, privacy can be achieved through objects, the way of planning and spatial organization. Islamic cities are the perfect example to illustrate this fact. While it is the rule of Islam that leads people to enhance their privacy with high fences and close-

together houses, in hot climates these fences also act as perfect sources of shade and obstacles against dusty winds. So architecturally this need of privacy gave the people the courage to live very close to each other and build compact alleys which give Islamic cities their main personality. Here density and compactness affords the necessary privacy which is transformed into architectural forms and characteristics (Samizay & Kazimee, 1993).

Lynch described the traditional Islamic city in his book *Theory of Good City Form* as an ‘inward city’ and said:

The closed intensely private city of the medieval Islamic world, which may still be seen in some traditional regions, is unfamiliar to us except as a romantic tourist attraction. The ruling metaphor is the container: everything is walled and gated from the city, to local residential clusters, to the house and its room. Even the major public ways are tightly confined. They lead to yet smaller local streets, which lead to extremely narrow cul-de-sac like capillaries, which lead to private doors, private patios, rooms and terraces. (Lynch, 1981, p.118)

If we take a closer look at Islamic cities, we find the houses have been designed in a way that respects privacy among the neighbours. The respect of visual privacy among Muslims, in both indoor and outdoor living spaces, is of utmost concern. At the same time, socialization among family members and members of the Muslim community is encouraged (Eben Saleh, 1997, p.167). Nevertheless, in all cases, regardless of their beliefs and ways of life, people psychologically are in need of a certain degree of privacy, and specific levels of openness with the public depending on time and mood.

In Kuwaiti houses the need for privacy becomes very strong particularly when more than one family live in the same house over a long period of time. Several precautions are taken to protect the house interior from the scrutiny and intrusion of passers-by. Islamic rules, the cultural demands for privacy and the strength of family life necessitated the separation of the family in its own enclosed area, the courtyard, which led to the total separation between the private life “inside” and the more public and unconditional life “outside” (Kazimee, 2000, pp.19–20).

This is obvious in the location and design of doors and windows, which usually face towards the courtyard. On the outside, windows are often small in size and number. The roof is provided with a high parapet to permit the family to use the roof during the summer seasons without sacrificing its privacy. This ideology has been manifested in the introverted form of the house to ensure its inhabitants’ privacy and is linked with psychological comfort. Al-Saif (1994, p.35) quoted an article prepared by Baghdad Municipality discussing the Baghdad house, Amanat Alassima of Baghdad stated:

The preoccupation with privacy exerted one another fundamental control upon the city; since the roof was used for sleeping during nearly half of the year and the privacy of the family at night was fundamental, no house could look down upon its neighbour nor could one house look into the court of another. This proscription was an effective building height control limiting most houses to two storeys above ground. (Baghdad Municipality, 1985)

The restriction of two-storey heights, as the article stated, came not from a proscribed building law or municipality code and regulation, but from a broad understanding of the religion of Islam and its values of privacy.

Moreover, women in Islam have intense privacy in the house. The word “woman” in Islam is *Harim*, which comes from word *harem*, or unlawful. This behaviour has religious roots; as God said:

Wives of the prophet you are not like other women, if you fear Allah (God), do not be too complacent in your speech, lest the lecherous-hearted should lust after you. Show discretion in what you say. Stay in your homes and do not display your finery as women used to do in the days of ignorance. (Quran verses 22:32-33)

Eben Saleh (1997, pp.167–84) has cited Petherbridge (1978), saying that the Islamic obligation has influenced the interior of Muslims’ house by segregating men from women unless they are relatives. In addition, it affected the design for public utilities such as schools, mosque, clubs, and other governmental public spaces.

The other physical design feature is the screened windows as an indication for the Islamic ideology of privacy. As well as providing shade, the screens provide the house with privacy from the outside and give females the freedom to view the outside without passers-by noticing them.

4.3.3.3 Personal space

The other level that affects the social values of human beings’ shelters is the notion of personal space, which people use to regulate their privacy or accessibility or interaction with others. People in everyday social life tend to keep a distance between themselves and others. However, personal space is not fixed or unchangeable, sometimes we move

closer to others and sometimes we move away from them. In any case, according to Al-Saif (1994, p.67) personal space is a theory that “assumes that there is a bubble around an individual’s body, and that this space is regarded as private or personal. It differs from culture to culture and from person to person”.

In Kuwait, as in any society, the elements of the built environment hold a special code for social meaning; space itself is assigned meaning in the language of behaviour. The meaning of these elements varies from one culture to another; and shows up in many ways in everyday life. So personal space is the hidden boundaries that surround people and are with them every day and wherever they stay. For instance, in the *yurt*, the interior is divided strictly into quadrants around a central hearth. An altar sits in the quadrant opposite the entrance and space here is also reserved for honoured guests. To the left of the doorway is the family head’s quadrant and to the right is the women’s and children’s area. The space is divided strictly between the family head and his wife and children by a curtain suspended from the wooden poles, providing a physical barrier between the public and private areas of the home. The interior layout of each dwelling is governed by strict codes that help maintain a sense of history and tradition (Topham, 2004).

In Islam, spaces that have been zoned for family are prohibited to strangers, and exclusively determined for family use only, and this has always been so inside the house. The Quran emphasises the need for personal spaces inside and outside and getting permission to enter this space is essential. Regarding the outside, the Quran states:

O you who believe! Do not enter houses other than your own, until you have asked permission and greeted those in them, that is better for you, in order that you may remember. If you find no one therein, still enter not until permission has been given. And if you are asked to go back, go back, for it is purer for you, and Allah is All-knowing of what you do. (Quran, Alnoor, 27)

Accordingly, it is obligatory in Islam to provide opportunities for segregation between men and women if they are not relatives, especially in the bedroom areas of the house. The family isolation in the courtyard gives the entire family its own privacy and isolation from strangers and non-relatives.

Altman and Chemers (1984) cited Hall who pointed out that in North America people use four spatial zones in their dealings with others in everyday situations. He identified intimate, personal, social and public zones to illustrate levels of interpersonal contact that are used to reflect closeness. Furthermore, on the use of these zones in the settings within which people find themselves, he observed that spatial zones are differentially appropriate for various social relationships.

Intimate Zone: According to Steve Love (2001, p.1) the intimate zone is a distance of up to 45cm from the individual. Only close relatives or close friends are normally allowed into this zone, like husband and wife in romantic setting, or close friends discussing private matters. It will definitely be inside the house; and more specifically inside a room where strangers are not welcome. Getting into the intimate zone with a stranger would be extremely dangerous, as they might react uncomfortably. Sometimes they might even move closer and act in a romantic way, if they interpret your behaviour to mean a desire for more intimacy. In any case, they are unlikely to continue an

informal talk in the intimate zone. Instead, they will readjust their distance to suit the setting and/or their interpretation of your relationship to them. Intimate zones are more strict inside the house, and more specifically in the bedroom; where one would wear comfortable clothing or sometime just be naked.

Personal zone: According to Hall (1959) the personal zone is the place in which people are able to shake hands or are at most no more than an arm's length from each other. Movement closer than this zone is considered intimate and the result produces tension and anxiety if it is in public or with a stranger's involvement.

Social zone: (Altman & Chemers, 1984) quote Hall describing the social zone, as being 1.20m to 3.50m. This distance is universal in all cultures and outside this distance people lose the ability to communicate and interact smoothly with ease with one another. It is most commonly used in everyday encounters of a social or business nature.

Public zone: which is usually further than 3.50m is an official distance used at public events and is usually retained for important figures. Close interaction, olfactory cues don't activate in the public zone. Moreover, verbal communication becomes more formal at this distance, articulation and phrases are more formalized (Altman & Chemers, 1984).

In Muslim society there are three specific times the residents of the house must be aware of: *Fajr* (dawn time), which is the morning time, *Isha*, the night time, when people sleep and they could be in an intimate position, and the third is *Thohor* in the afternoon when people change their clothes after a long day working and sometimes take a nap. (Kuwaiti people go to work from 8 a.m. to 2 p.m. and then usually they have

their lunch and take a nap for a couple of hours.) Islam highlighted these three times to give people their own privacy and freedom to enjoy their space and personal and intimate activities that give one tranquility, a healthy social environment. Allah stated in the Quran:

O you who believe! Let your legal servant and servant girl, and those among you who have not come to the age of puberty ask your permission [before they come to your presence] on three occasions before Fajr [morning] prayer, and while you put off your cloths of the noonday, and after the Isha [late-night] prayer. [these] three times are of privacy for you. Other than these times there is no sin on you or on them to move about, - attending [helping] you and each other. Thus Allah makes clear the Ayat [the Verses] of this Quran, showing proofs for the legal aspects of permission for visits. (Quran, Al-Noor, 58)

4.3.4 Adaptation through the cultural environment

In general, there is no accurate definition of culture; in 1952, Alfred Kroeber and Clyde Kluckhohn compiled a list of more than 200 different definitions of *culture* in their book, *Culture: A Critical Review of Concepts and Definitions* (Kroeber & Kluckhohn, 1952) as an indication that there is no fixed definition of culture. On the other hand, internationally, according to the United Nations Agency, culture is:

A set of distinctive spiritual, material, intellectual and emotional features of society or a social group, and that it encompasses, in addition to art and literature, lifestyles, ways of living together, value systems, traditions and beliefs. (UNESCO, 2002)

Architecture, and housing design specifically, is considered the mother of all arts, and has always been, throughout history, the truthful mirror of cultural development reached by nations in all branches of knowledge and sciences. It is the true indication of the tradition, morals and sciences, as also it is the true indication of the norms and values of society. It is true to say that the history of nations and peoples from time immemorial can be read on the walls of their buildings and houses. Moreover, Islamic architecture, too, constitutes the true indication of Islamic culture throughout all phases of its development. Such culture is like a huge branched tree, the boughs and cells of which are connected with one another, as also its roots are deeply struck, drawing its firmness and permanence from the Islamic creed (Al-refa'y, 1991, p.119).

In this study the focus is on Kuwaiti people and the places they live in, and more specifically the house and its legislation; because only through legislation and “modern documentation paperwork” can designers and planners improve people’s lives inside their houses. But first, understanding their needs and their culture is a priority. It is important to understand people’s tradition and way of life in order to design an ideal house that could be inhabited for several years, if not generations. In a Muslim society like Kuwait, it is not just about how to build an ideal house or decide in which way to put the walls together; more important is what is going on behind those walls. In 1969 Rapoport stated that the house is an institution, not just a structure, created for a complex set of purposes. Because building a house is a cultural phenomenon, its form and organization have been greatly influenced by the cultural milieu to which it belongs.

A built environment will have no cultural meaning if it does not encompass its inhabitants’ values, beliefs, customs, and norms. Cultural tradition has been the most important theme for anthropologists (Hall, 1969; Taylor, 1958), social scientists

(Sommer, 1983; Perin, 1970, 1974; Lang et al., 1974; Rapoport, 1990; Altman, 1975), city planners and urban designers (Lynch, 1960, 1972; Alexander, 1977; Bacon, 1967). Almost all of these studies concluded and agreed upon one significant fact; that a human being's physical environment is an expression or manifestation of cultural values, norms, tradition, and above all, religion (Al-Saif, 1994).

As an example of the influence of customs, in Japan, the traditional way of life did not involve living rooms, bedrooms, chairs, and tables; most of the activities would take place on the floor. People would eat their meals cross-legged around a table 300mm above the floor, and bedrolls would be rolled out at night and put away again in the morning. The lack of furniture, apart from storage chests, meant that the rooms could be smaller and the family's gatherings would be more intimate. However, when seated, eye-level is only about 800mm above the floor so doors and windows consequently had to be low to allow a view out. And part of the function of the house's platform was to raise the level of view at least to the same level as standing outsiders, so privileged householders could give instructions to standing servants and meet the gaze of arriving visitors (Jones, 2004).

In the traditional Kuwaiti house, people use the living room as a reception room, eating room and bedroom as well, using the Japanese idea of rolling and unrolling beds in evening and morning times. The traditions of multi-use space in the house have emphasised the house's size and made it more intimate which promotes family interaction.

From religion and cosmology, symbolism is considered the core that has affected the built environment and people's culture, making it sometimes very difficult to separate

religion from culture. In fact, there are many cultures highly based on religion, as in Kuwait, where as a Muslim country almost all its rules, its built environment and lifestyle is based on Islam. In contrast, the many faiths in India have meant that India has multi-cultural food, language, fashion, and design in every region in one country.

4.3.4.1 The interaction between culture and the built structure

According to Masaud (1996), not all culture can be translated into the built form, as this is unattainable, but some aspects of the culture like social activities, daily lifestyle, family status and interaction, and so on, are translated into the built form. These aspects of culture eventually translate into form because of how people practise their daily lives according to what is in their minds, and according to their belief-related practices and activities and economic circumstances. Culture provides the rules, regulations, instructions, techniques, schemata and the outlines about how to interact, behave, how to do things and to build. Culture survives for generations through people who generate cultural criteria and a shared cognitive framework and who actively perceive and moderate this knowledge to fit their lifestyle.

The similarity between Muslim's houses' design around the world never survived all of these thousands years without the natural involvement and interaction between man and its environment. In return, it would not be culture and values inherited and transmitted for generations. If one takes a look over the significant features of Islamic architecture in house design, one can find out that no matter how these house has façades and has several colour; it has profound spiritual unity. As Jarody mentioned once that: for me when ever I see the creativities in any Islamic architecture around the world, I feel that there is one man designing them and he believe in one God. (Al refa'y, 1991)

In the Kuwaiti family, which is usually an extended family, it is the duty of the older generation, and especially the mother, to teach the young generation Islamic manners, which in fact are a way of life, like how to eat, sleep, respect others, and how to design their space. It is important for people to protect their culture so that by observing and interacting with members of the community the younger generations can learn these values. Culture therefore helps to accelerate the processes of learning through its numerous values, symbols, and folk language, which, as they are transmitted from one generation to the next are in turn translated into the built form.

Fundamentally, it is the culture that makes the courtyard an essential part of a Kuwaiti's house, it is the culture that forces Kuwaiti houses to have to separate gender, public, semi-public and private zones. How to build shelter is one of the important learning values and cultural criteria people need in their lives to survive within their environment.

Culture is translated by human actions, through a series of intermediate steps, into built form; this is when the built form is used actively for cultural purposes. One can see this clearly in the form of traditional Muslim cities around the world, as the Islamic rituals and beliefs are the main force that shapes them. In fact, if one is interested in understanding the form of any city, it is important to understand the role of its people's lives.

Before one can understand the socio-spatial relationship in the built environments of traditional Muslim societies, it is essential to understand the role of the family in the larger social order under the Islamic jurisprudence. The

family, as an influential social unit with its unique influence on the individual and the community, has been the central factor behind the development of the spatial order of the Islamic city. (Samizay & Kazimee, 1993, p.99)

It is this dominant role of the life of people and the particular gender relationships that has been a powerful image-maker in the configuration of habitual environments. These social and cultural patterns of Muslims' lives have been clearly translated into a physical order that differentiates between the interior and the private and the exterior and public sides to life. While the outer dimension is seen as uncertain, unreliable, insecure and a constant source of struggle, the inner dimension, centered around and on family life, provides security, serenity and trustworthiness. Understanding this stable inward-looking order against the unpredictable external order and the physical forms they provoke is crucial for understanding the cultural and the social life which is interwoven in Islamic cities and houses (Ibid.).

However, in Kuwait these days the people and the Kuwait Municipality, which legislates on house design, are in total denial of this link; they are separated from the fact that their culture is one of the main forces behind the design of their houses and has a strong impact on how they live within their spaces. Modernization and civilization is now the core of Kuwaiti people's focus in terms of house design. Unfortunately, as we will see in the empirical part of this study (see Chapter 8) the findings indicate that these days the myth of designing the traditional courtyard house is associated with ignorance and intolerance. Kuwaiti people believe and are more interested in globalization and modernized houses, which spring from a totally different culture, lifestyle and beliefs. As a result, most new houses are designed according to these "modern" models, which

have been approved by the Kuwait Municipality and Kuwaiti Building Code and Regulation.

It is obvious that many Kuwaitis are struggling to adapt physically, culturally and socially with this new design as they are altering their houses several times within a short period of moving in, either by adding walls to define the space to enhance privacy, or adding rooms to accommodate their children or maids, or to enhance gender segregation.

It is believed that architects and designers should be the main sources to produce built forms or spaces that suit human needs. But contemporary designers have often ignored culture. They think their specific design features are more important than function (which inherently affects how people inhabit the space through their daily activities) and that designs are interchangeable between different societies. Architects have adopted an assumption that all cultures are the same; which is incorrect indeed (Osman & Suliman, 1996, pp.395–428).

It is crucial that Kuwaiti housing legislation reflects Kuwaiti culture, and it needs to have the authority to force people to consider such fundamental elements as culture and its impact on daily life. Yes, we all like to have comfort and tranquility in our houses, as life is a struggle, but at the same time it is the culture that sustains the values that give people security and identity that should be maintained.

4.4 Conclusion

In summary, culture as part of a complex ecological system, culture as a component of values, norms, religion and meaning, and culture as an identity and definition of the

urban space are the most important reasons for studying culture and its relationship with the built form. In turn, the main object of this study is to produce and develop a body of knowledge to improve the current Kuwaiti housing legislation that puts the adaptation process within the house as a significant priority. Housing code must be stated according to a people's way of life. Designers, city planners and the Kuwaiti government need to address the cultural, social and environmental adaptation in housing legislation, as this will provide a lead to designing healthy houses that in return produce a healthy environment that fits the human being's physical context.

Also, decision makers in Kuwait need to consider that the hierarchy of human needs also changes as life goes on; every time a person fulfils an essential need they become motivated by another need, and so on. So keeping space for future needs by making the house flexible to adapt is essential. For this reason, Maslow's theory of human needs will be discussed in the following chapter.

Chapter 5 Motivation

5.1 Introduction

The motivation of human needs undoubtedly plays an essential role in our behaviour in daily life within our houses. Moreover, we must recognize this powerful force in understanding these needs in relation to how we behave in relation to space (Lawson, 2001, p.16). The main objective of this study is to build a body of knowledge that could help to improve Kuwaiti houses, and more specifically their interior architecture, but this is an impossible mission without improving the housing legislation. The author's hypothesis is that the legislation and code building rules and regulations are the main reason behind the problems that people are facing in the interior of their private houses as well as the governmental public houses. The government has failed to convince Kuwaitis to accept either the old or new public houses, as shown by the people's strenuous rejection of the Al-Sawaber high-rise flats (a 400-square-metre-flat complex built in 1970 by architect Arthur Eriksson) in the 1970s or other high-rise buildings.

These days, houses in Kuwait are built according to people's fantasy without bearing in mind significant yet sophisticated factors like their basic human needs in terms of space, weather, culture, budget, environment, and Islam. The government ought to understand that a house is not merely a cubical concrete structure that people inhabit; the house has philosophical roots and a history, established thousands of years ago, based on our ancestors' understanding of their beliefs as Muslims, and their understanding of the five main human needs to live on this earth with happiness and satisfaction – biological, safety, security, love and belonging, and self-actualization. (All these will be discussed in detail later.) These critical elements are so powerful in making people happy,

satisfied, and productive that if these needs are ignored it can lead to people living in anxiety, discomfort and frustration, with constant feelings of loneliness and no identity. In fact, addressing these needs when designing houses will promote family interaction that would lead to neighbourhood interaction, to city interaction and in turn would enhance Kuwaiti society ties.

In order to understand these issues more fully, we first need to look at those basic human needs in some detail.

5.2 Introduction to Maslow's theory of human needs

Human needs have been addressed in many theories like Alderfer ERG Existence Relatedness and Growth Theory Model (1972), Victor Vroom Expectancy Theory, McClelland Achievement Motivation Theory (1961), Herzberg's Motivation-Hygiene Theory (1950), Douglas McGregor Theory X/ theory Y (1960).

In 1954 Abraham Maslow introduced the human needs model (Maslow, 1954, pp.80–106). Humans usually start at the bottom of the hierarchy pyramid and will primarily seek to satisfy the essential needs. Once these physiological needs have been satisfied, they are no longer a motivator, and the individual moves up to the next level. This model presents a hierarchy of human needs from basic and fundamental necessities to more impenetrable ones. Maslow suggested that the motivations behind any human behaviours work as a guiding force, based on needs that can be categorized and predicted. These needs fall into five categories: physiological, security, social, esteem, and self-actualization (see Figure 29).

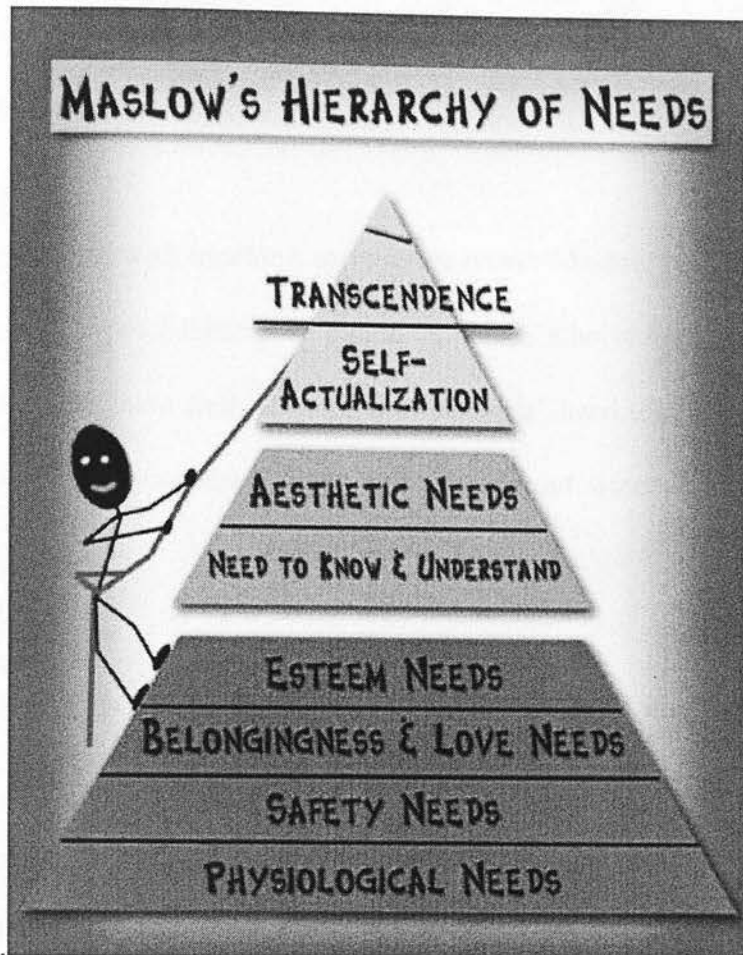


Figure 29. Maslow's hierarchy of human needs

(Source: <http://www.itiadventure.com/Maslow.jpg>.)

If the basic needs are relatively fulfilled, they become insignificant and the focus shifts to less basic ones. According to Davis (2007):

Some have noted that Maslow's hierarchy follows the life cycle. A newborn baby's needs are almost entirely physiological. As the baby grows, it needs safety, then love. Toddlers are eager for social interaction. Teenagers are anxious about social needs, young adults are concerned with esteem and only more mature people transcend the first four levels to spend much time self actualizing. (Davis, 2007, p.3)

In 1970, Maslow added the cognitive and aesthetic needs. Moreover, in 1990 he introduced transcendence needs.

When he was working with monkeys early in his career Maslow realized the key point that some needs take precedence over others. A person who is hungry and thirsty will try to take care of the thirst first, as thirst is a “stronger” need than hunger – a creature can do without food for weeks, but can only go without water for a couple of days (Boeree, 2006, p.2).

The goal of this chapter is to discuss the key theoretical issues from Maslow’s model of the hierarchy of human needs in order to apply them to Kuwaiti housing legislation.

The life of a person in any space within the house is framed and influenced by their needs as human beings. Motivations are many and varied, and not only depend on personality and culture but also change with time and situation. For that reason, it is necessary to recognize these human needs in Kuwait Municipality and the PAHC (Public Authority for Housing Care) in order to establish not only houses that are beautiful to look at, or be proud of as a life accomplishment, but also houses that are healthy, culturally genuine, flexible to fulfil their inhabitants’ present and future needs, that fit the people’s lifestyle, and finally yet importantly, that go harmoniously with the harsh desert environment and Kuwaitis’ beliefs.

To reach the previously satisfactory levels of housing design, designers, the Kuwait Municipality, and the PAHC should understand the interaction between people’s cultural values, the climate, technology and economic factors and people’s desires and fantasies. The author believes that studying and understanding the needs of people in

Kuwait will contribute to improving the current housing legislation, that in turn will help to design successful environmental healthy houses.

In order to have a full picture of the roots and branches of human needs it is necessary to involve the founder of human needs, Abraham Maslow. He introduced basic human gut drives such as survival, hunger, thirst and so on, closely followed in order of necessity by psychological needs for safety, love and belonging, respect and what he called self-actualization, and aesthetic and cognitive needs. Maslow's human needs hierarchy is arranged in five important levels, and these will form the basis of the following discussion.

Figure 29 illustrates Maslow's human needs in a hierarchical pattern with physiological needs being the most important until they are satisfied. He defines a prepotent need as having a great influence over the subsequent needs until it is satisfied. These needs establish a pyramidal order starting as follows.

5.2.1 Physiological Needs

According to Maslow, physiological needs include the very basic need for air, warmth, food, sleep, inspiration and activity. People can die due to lack of biological needs and equilibrium (homeostasis) (Norwood, 2006, p.3). These include the needs we have for oxygen, water, protein, salt, sugar, calcium, and other minerals and vitamins. They also include the need to maintain a pH balance (getting too acidic or alkaline will kill a person) and temperature (around 98.6°F). There is also the need to be active, to rest, to sleep, to get rid of waste (CO₂, sweat, urine, and faeces), to avoid pain, and to have sex.

Research supports Maslow's argument that the previous elements are in fact individual needs, and that a lack of vitamin C, for example, will lead to a very specific hunger for things which have in the past provided that vitamin C, e.g. orange juice (Boeree, 2006, p.2).

From an Islamic philosophical point of view, Muslims believe that Allah (God) has created our bodies in a particular physiological way that makes us capable of surviving and keeping humankind on this earth. Therefore, the body will take care of its own physiological tasks to maintain its need for food, oxygen or other minerals to keep its balance and temperature (homeostasis).

Muslims believe that Allah created the human body, which is considered the most complicated machine ever, and He sent the Quran as a manual to maintain it and to protect it, to help this machine to work effectively and happily. (See Chapter 2 for an elucidation of Islam and its integration in Muslim life.) Allah as the creator for this "machine" knows how it will survive on this earth. Therefore, He considers the physiological need the most important need for humankind to survive. Accordingly, He prepared the earth and shaped its features of ground, mountains, rivers, trees and other elements in a way that would go in harmony with the human being's body. As He revealed to His prophet Mohammed in the following verse, which says let people of Mecca worship Him as He gave them the priceless grace as He took care of their critical human needs in their instinct in that He saved them from fear and He fed them from hunger:

For the covenants (of security and safeguard enjoyed) by the Quraish, Their covenants (covering) journeys by winter and summer, Let them adore the Lord

of this House, Who provides them with food against hunger, and with security against fear (of danger). (Surah, 106, Quraysh)

Emhemed (2005) quoted Lang (1994, p.156), saying that physiological needs are considered the most important and crucial needs; as the fulfilment of these needs affects the continuity of human beings and their existence on this earth. These needs include food, water, shelter, air, light, comfort, and other needs that are related to a human's body to ensure normal bodily function in any place. In addition, needs for sleep, moving comfortably and in ease around the one's space to obtain the necessities of life are other basic needs, thus people can die due to the lack of biological needs (see <http://www.deepermind.com/20maslow.htm> (last accessed 2007)).

Although house designers cannot satisfy hunger and thirst needs, they can certainly satisfy the other physiological needs like protection, warmth, tranquility, sanitation, comfort and other physical factors that help human beings to be satisfied and live in well-being. At the same time, designers can have a main role in terms of texture, colour, balance, proportion and human scale, and the aesthetic considerations for houses that resonate with our inner selves. Beyond all this, there seems to be an overall effect of designers upon a person's well-being in matters concerning mental health or illness and comfort. Crawford (1998) stated:

Comfort is a notion that varies from culture to culture; the world is divided, for example, between those who feel comfortable sitting on chairs and those who prefer to squat or sit on floors. Even so, most humans will agree on fundamental notions of comfort. We like to feel warm when it is cold and cool when it is hot. We enjoy the creature comfort of fabrics, whether woven mats or cashmere

blankets. Comfort is the quality of the air we breathe, textures we like to touch, ambiances we instinctively relax in. Furniture is best when it is big and multi-purpose. Whether traditional or modern in style, many contemporary homes are surprisingly uncomfortable because their look is inimical to creature comfort: they offer nowhere for us to relax and let go. Homes that are beautiful but not sensuous are cold emotionally. (Crawford, 1998)

For instance, handicapped accessibility (or the lack of it) would affect the daily lives of elderly or disabled people. Moreover, lack of sunlight and ventilation in the house in general would affect the inhabitants' well-being and psychological health. Or in contrast, in the hunger for a life of luxury and being "globalized" or "modernized" Kuwaitis tend to install huge 2x2-metre glass windows in different shapes and styles. As a result heat from exposure to the sun (which can reach an intense 50°F) makes the people who live in the house constantly anxious and stressed, with expensive cooling bills. Crawford stated that:

Homes should resonate with our inner selves. Since the world wide web turned reality inside out we have been searching for balance in our lives. If we are aware of our human needs, of the desires that lie behind our desires, we can make the right choices. And we can avoid the things that do us harm. For as Philosopher Alain de Botton in his 2004 book *Statues anxiety* described the hunger for a luxurious life he said, "The history of luxury could be more accurately read as a record of emotional trauma". (Crawford, 2005, p.8)

Fulfilling the requirements related to the thermal and climatic as well as the cultural and social conditions in a particular space should be an important priority of all designers

and legislators. However, much of this must be done not by designers but by the actors (the people) themselves, since the space is effectively an extension of their own behavioural mask. In turn, the challenge for designers and legislators is how to create space that invites and facilitates passion and personalization (Lawson, 2001, p.31). Physiological needs are not only needs for food and water, but also for spaces for these activities to take place in. These needs have to be addressed and spaces designed in such a way that these activities can be performed with satisfaction and happiness. Designers and legislators should emphasise a space's elements not only from the aesthetic and stylistic point of view, but also from how it fulfils humanitarian, cultural, religious values, environment, comfort, and protection requirements. This leads us to the safety needs.

5.2.2 Safety and Security Needs

When the physiological needs are largely taken care of, we can move to the next level, which consists of our need for safety and security. The safety need means freedom from psychological and physiological fear. At this level we seek out safety through other people and strive to find a world or space that will protect us and keep us free from harm. If physiological and safety needs are not met, it is extremely difficult to think about higher levels of Maslow's needs and therefore we can not continue to grow. It is only when we feel safe and secure in our world that we can begin to seek out friendships in order to feel a sense of belonging:

(see <http://allpsych.com/personalitysynopsis/maslow.html>).

People have always needed to feel safe in their dwelling place, whether it is a cave inside a mountain or a fancy palace. Whatever it is, any indoor space where people have shelter and a roof over their heads is considered a home or their "castle". People feel

secure inside their home due to the power they have in being able to control and own their space within the limitations of reality and human potential; and their feeling that it has order and some limits, in contrast to the uncontrollable and random outdoor space.

The safety needs operate mainly on a psychological level. Naturally, we try to avoid a poke in the eye with a sharp stick. However, once we have managed a certain level of physical comfort, we will seek to establish stability and consistency in a chaotic world. When he talked about security, Maslow pictured the child who strives for predictability and certainty. For instance, most kids enjoy a set bedtime routine and grow visibly distressed if a parent tries to short-circuit the ritual. Their safety needs require a consistent and secure world that offers few surprises. (Griffin, 1991, p.3)

Safety needs come second within Maslow's hierarchy of needs. Interestingly, safety also comes second in the Quranic verse mentioned earlier. Regardless of our nationality and background as humans, the house is the place where people feel safe and protected from exterior dangers or unwanted people; the house is the foremost factor of the safety need. In relation to houses, control over one's own house can give a massive sense of security and safety, as Gaston (1994) described the life inside the house: life begins well. It begins enclosed, protected, and all warm in the heart of the house, as house is where the heart is.

When humans needed more freedom and safety they set regulations, laws, limits, and orders in their society and houses. In addition, they put protective elements and materials to protect them from natural hazards like earthquakes, flooding, dust storms or

illness. All of the above require a safe place to live, or any space that has a roof that contributes to living a healthy and safe life.

For instance, in Japan:

The volatile climate means that successive seasons are profoundly marked; the bitter dry cold and severe blizzards of winter are matched in intensity only by the unbelievable humidity and sticky heat of the summer months. In addition, Japan is prone to hurricanes, typhoons and frequent earthquakes. Consequently, the house has to be flexible enough to cope with the extremes of every meteorological oddity and seismic wobble. (Scott, Evans & Keane, 1999, p.22)

This example indicates that no matter what culture the house is part of, safety is fundamental.

Safety needs can be fulfilled by building spaces that have environmental, safety and security, cultural, aesthetic, controlling territory and other necessities that provide a sense of stability and freedom from vulnerability or the risk of unfortunate events. In her study in Easter Hill, Cooper found that using design features like hedges for territorial definition is more appropriate than using barriers like fences. However, for private front or back yards Cooper found that residents preferred higher and more solid fences that promote security and safety for privacy and protection (Cooper, 1975, p.87).

“Maslow also placed religious inclination on the safety tread because he saw religion as an attempt to bring about an ordered universe with no nasty shocks” (Griffin, 1991, p.3).

It is true, as one Muslim scholar said:

In human civilizations people were keen to have something to worship, to lean on, to take power from. All ecologists, travellers and religious scholars agree that it is possible not to find in some civilizations specific places for eating, education, or entertainment, but indeed you will always find specific special place for worshipping as it is the human's instinctive need for something to worship it is their natural strive desire to believe in something powerful. (Shiakh Al sha'arawy, Muslim Scholar)

Clarity and order of design increases the sense of security. The house's inhabitants, or its users like guest or maids, feel more secure when they know where they are, where they should go, and how they should exit or circulate in the space of the house. In the past Kuwaiti people used to have sensitivity in house design in the houses of the old traditional courtyard style, and they had a sense of security as they were familiar with the site and their house's design. So questions of familiarity did not arise at that time as houses traditionally had the same simple layout; one entrance, and a courtyard surrounded by rooms, so the house design was familiar to everyone, which enhanced the feeling of safety and stability and familiarity. Becker (1974) in his study of low and moderate income multi-family housing, found that in order to increase security "clear territorial definition" was needed in the development and between and within houses and the surrounding communities. According to the previous discussion, the traditional Kuwaiti courtyard house fits in harmony with the cultural norms and the function of house design, as the creation of visual and functional order goes hand in hand.

In Italy, on the other hand, when working together, the owners and the architect hit on the model of an inward-turning Roman courtyard house. They felt that only by first

establishing a solid sense of security could they establish real control and habitability of their site. The solution was to build out on all sides as far as possible with relatively bland walls and thereby capture a completely interior courtyard open to the sky (Jacobson, Silverstein & Winslow, 2002, p.27).

These days Kuwaitis are full of excitement in copying “Global design for houses”, and they are copying modern house designs and materials too, despite their conflict in terms of adaptation. In daily life behavioural patterns cause many accidents inside the house, exacerbated by the materials and equipment people are now using, such as slippery surfaces like marble and mosaic (in this study marble was mentioned 30 times as one of the preferred materials to be used within the house), and glass, the extravagant usage of technology gadgets; including electrical devices without safety switches.

Becker (1974) also suggested that a single entrance increases security by controlling those entering the building; pedestrian path design should discourage strangers and non-residents from entering the building. However, these days houses in Kuwait have two or sometimes four entrances, which decreases security as they are difficult to control.

Staircases are built without a handrail, simply because the parents like the design from a foreign house magazine or they have seen it in a movie. But this makes it all too easy for children to fall down from upper floors. Moreover, because of their prosperity, now the majority of Kuwaitis have an elevator within their house, but most of these elevators do not have an internal switch control, and this has led to children or elderly people being locked inside the elevator for hours.

All of these factors decrease physical safety and security, as obviously people are not fully aware of the safety regulations. Planning and building regulators should emphasise design codes that prevent discomfort and difficulty inside the house, and increase personal safety. Kuwaiti people, legislators and designers need to pay more attention to factors that make the house a home, where love and protection matter more than being massively engaged in merely materialistic items.

Our underlying perception of HOME is strongly linked to the maternal. Whatever the style, our ideal home is a warm, protected place where we feel whole and happy. This association of home with mother, with feeling safe, is so deep rooted we never truly shed it. As children, we developed step by small step, and risks were taken because retreat to a safe place was possible. Even as adults some of us continue to call our mothers whenever life seems threatening. And home becomes in many ways our surrogate contact mother, our place to retreat to and the place that gives us courage to venture out. It serves our functional needs, but the emotional ones it answers are far more significant. For none of us is at our best when we are feeling fragile. Home, then, is a mental state as well as place. (Crawford, 2005, p.36)

When looking at safety in the Kuwait environment, many people think that following the war in 1990–1991 it applies to military activities and operations only. However, the process that followed the war was not less important than the war itself, for instance, the engineers' operations to remove the mines from the desert and sea, as well as cleaning the soil from oil products, weapons and dead bodies, and putting out the fires from the oil wells. It took four years to rebuild some of the Kuwaiti environment, but even now people still suffer from harmful germs, illness, and pandemics (Mysak, Mahfoth & Al-

Asfor, 1998). Such environmental issues tend to provoke frustration and limit satisfaction of the safety needs. To maintain residents' living standards, legislators and designers in the Kuwait government should consider this critical human need, the location of harmful facilities must be dealt with, and the provision of good sanitation is necessary in housing.

Achieving the highest safety needs could be done by more detailed codes of house design, planning and building legislation that would help to create a sustainable environment with a minimum amount of pollution and ecological damage. Harmful bacteria have many sources, such as poor waste disposal, stagnant water, bites from insects, etc. And then there is pollution from industry; inhabitants near the Um Alheam area to the north of Kuwait city complain almost every day because they are suffering painfully as their children are coughing every night due to breathing chemical components of oil smoke.

The earliest building planning regulations around the world have developed health and security codes in house building to provide physiological safety because legislators perceived the importance of safety needs for people in the buildings and its importance for people's social behaviour within the space, but this has not yet happened in Kuwait. Fennelly claimed:

In 1969 Oscar Newman and George Rand developed a theory of territoriality (Now referred to as defensible space), which held that proper physical design of housing encourages residents to extend their social control from their homes and apartments out into the surrounding common areas. In this way, they change what previously had been perceived as semipublic or public territory into private

territory. Upgrading the common areas in this way results in increased social control and an interaction between physical environment and its users. (Fennelly, 2004, p.2)

Then Fennelly quoted Newman himself, defining the defensible space as:

A surrogate term for the range of mechanisms-real and symbolic barriers, strongly defined areas of influence, improved opportunities for surveillance-that combine to bring an environment under control of its residents. A defensible space is living residential environment that can be employed by inhabitants for the enhancement of their lives while providing security for their families, neighbors, and friends.

Moreover, the creation of a safe environment also means the employment of sustainable safe materials, elimination of sharp edges, the use of raw materials, and avoiding hazards like chemical paint that has been banned from most European countries and the USA, but is still use in Kuwait.

When people have control over their lives they live with peace of mind. Psychological safety could be attained by having control over one's life, which is achieved by privacy. Privacy is the ability to control interaction. Privacy is expressed and formulated differently across cultures and throughout history. However, it has the same underlying concept and reality. Emhemed (2005) quoted Rapoport (1977) pointing out that attaining privacy has two processes:

1. Controlling the flow of information about a behaviour given to, or obtained by, people outside the setting
2. Excluding the intrusion of unwanted information into a setting (Rapoport, 1977, p.203).

Planning and building legislation in Kuwait should respect the concept of privacy in Kuwaitis' houses and reflect it in the design of settlement spaces. The esteem of visual privacy among Muslims, in both indoor and outdoor living spaces, is of greatest importance. Moreover, controlling the distances between blocks, the direction and size of windows and construction technology would help to achieve audio privacy.

5.2.3 Love and Belonging Needs

When physiological needs and safety needs are taken care of, a third layer starts to show up. At this point people begin to feel the need for friends, children; loving relationships in general, even a sense of community. Looked at negatively, people become increasingly vulnerable to loneliness and social anxieties. In our day-to-day life, people exhibit these needs in their desires to marry, have a family, be a part of a community, a member of a mosque or church, a brother in the fraternity, a part of an organization such as a bowling or cooking club. It is also a part of what we look for in a career (Boeree, 2006).

Most of us hate being bored, and want some form of amusement or entertainment. We might see this as a need for stimulation, and we demand that the space around us should provide this. On the whole, we also seek to avoid high levels of uncertainty and change, and we require a degree of stability and

structure in our lives. We might see this as a need for security and so we require spaces to keep us secure. Most of us seem to have strong desire to belong somewhere. (Lawson, 2001, p.18)

Human beings are by instinct sociable creatures and tend to live with people as a group. Duncan (1985) calls it collective society which promotes strong social relationships among each other, like the people in Kuwait.

At this stage, people start to feel the need mainly for two essential factors; first, people who can give them love and vice versa, and also people to associate with; and second, a place to belong to. The Chinese talk of the full heart, the small heart, the tight heart and the closed heart. True kinship takes a warm heart. In essence, it is about being together, deeply, honestly. We talk about love so much but we forget that it is something we give rather than get; a way of being. Without it, we are fragmented, locked in our separateness. With it, we thrive (Crawford, 2005, p.71).

A sense of belonging and people to associate with is crucial. Individuals obtain the greatest satisfaction from being accepted by others, and become distressed if they feel they don't belong, as when a person starts new job and he/she does not "fit in" with the group. In the same way, when a child starts their first day at a new school, they beg their classmates for a smile or a sign of acceptance and support; we have all been in these shoes at least once in our lives. Therefore, we always prefer to work with others who like us and who can work harmoniously and cohesively with us. The need for belonging could be fulfilled by having healthy relationships and an identity as a contributing member of a group, which could be biological like a tribe, or social, like an organization.

Belonging to a place, and the idea of “home sweet home” becomes a strong need for people seeking belongingness and love after they have gratified their basic needs of survival and safety (Emhemed, 2005, p.126). Maslow’s concept of belonging combines the twin urges to give and receive love. For Maslow, giving love is more than maternal instinct implanted by nature, giving love is seeking to fill a void by understanding and accepting selected others. Receiving love is a way of staving off the pangs of loneliness and rejection. The man who attains this level will “feel keenly, as never before, the absence of friends, or a wife, or children” (Maslow, 1943, p.381).

Belonging to a place could be achieved in housing through having places that invite people to be together, to socialize and bind together. This might be a living room in the family house, a *Dywaniya*, courtyards, clubs or public gardens, as landscape and other characteristics that categorize the space and its location play important roles in giving an identity. Memories and the socio-physical reactions of children and adults to a place lead to a feeling of belonging, as Lynch concluded in his list of the most memorable features when he asked 40 people about their childhood. His list included: lawns, foliages, texture and colour, play areas, hills, transport space and sense of crowdedness, and orientation (Lynch, 1960, p.112). These senses and features enrich the space in people’s minds and make the image of the place stay for ever, and as a result people always feel love and belonging for these spaces.

In contrast, the lack of family, friends, companions, and community produces and promotes loneliness and social anxieties. The need for love between people and interaction among them is an essential part of our psychological make-up. In Kuwaiti culture it is believed that any place that doesn’t have people to live with is considered

deserted, and a place where people would rather not live, even if it is a piece of paradise. In addition, there is a verse in the Quran that describes the circumstance of Prophet Abraham and his wife Hagar. Allah said:

Our Lord, I have settled part of my family in this plantless valley, at Your Sacred House. Our Lord, they are to observe the Contact Prayers (Salat), so let throngs of people converge upon them, and provide for them all kinds of fruits. (Quran, Sourat Abraham, V.37)

This verse of the Quran emphasises the importance of the need for people, and interaction with people in a human's life, as the prophet Abraham did not ask Allah (God) for money or materialistic things for his family, he was asking Him for an essential life element, people to belong to and protect, together with food to survive.

A recent study done by Kuwaiti sociologist Alwogyan³ study in 2006 showed that 60% of Kuwaitis prefer to socialize, interact, and enjoy talking with others about their lives as a daily activity. Kuwaitis, as a Muslim society, strongly believe in socializing and interaction, and as a result it is important for any Kuwaiti person to live in a house with people they know, near to their family and relatives. This particular need causes a big dilemma for Kuwaiti families who may have to find a balance between being independent and having more freedom and space in their own house and being isolated and lonely far away from their family's relatives and close friends.

³ Printed in *Algabas*, Kuwaiti daily newspaper, Thursday, 14 September 2006.

Crawford stated:

Yet the idea of family is celebrating a comeback. There is something about the model of the family that is appealing in its potential for emotional warmth, support and sensuality. Still, to create a sense of belonging takes dedicated time and space listen and to care for each other, whether we are talking about the extended family, a nuclear family, a couple or friends. We must consciously create social space, warm space, a place to play together, to be together. As things stand, instead of talking to each other, we go to therapists. (Crawford, 2005, pp.71-2)

It is indeed the human need for love and belonging and for people to associate and socialize with, that allows people to build their memories and identity.

Social norms then are extremely powerful because they give security and identity to people in the group, allowing them to behave in regulated way without fear of their behaviors being thought to be inappropriate by their family members, neighbors, colleagues, and friends. However, are there spatial reflections of social norms? To components of the language of space. (Lawson, 2001, p.23)

The Kuwait government, and more specifically Kuwait Municipality and PAHC, are facing this problem, which is the difficulty of satisfying the people's need for love and belonging; as Kuwaitis want to live near Kuwait city to be close to their family and loved ones, but there is no longer any land.

Designers and legislators should be aware of the need of human of love and belonging. Therefore, houses, neighbourhoods and cities should be provided with spaces that promote interaction that can be used as a substitute for the family living far away from them; so the neighbours will be one family. For instance, in Kuwait, as in many Islamic cities, mosques play a major role as communal spaces where many people gather for different social and religious activities. The inherent practice of Islam that calls believers five times a day to congressional prayers established a strong system of communication among those who lived within walking distance of the mosque.

Traditionally, before the discovery of oil (*Albaraha*) the open yard in the neighbourhood provided a playground for children to meet and engage in various types of local traditional games that strengthened ties between them. Along the same lines, the architect Aldo Van Eyck⁴ noticed the importance of transitional spaces in creating a good interaction, to use his phrase “subtle inter social stimulants”, which may ease natural encounters between neighbours and encourage leisurely conversation. His idea of the creation of a playground within residential neighbourhoods proved to be successful in strengthening the sense of community. In Kuwait, the Public Authority of Housing Care (PAHC) employed a method of designing neighbourhoods in an attempt to create a sense of community among neighbourhoods, but on the other hand, the PAHC westernized house design, which decreased the sense of family interaction and socialization among family members inside the house. It should be the other way around.

⁴ Architect Aldo van Eyck (1918-1999), world-famous for his (playground) design of the Municipal Orphanage in Amsterdam.

5.2.4 Esteem Needs

After satisfying the need for love and belonging, higher levels of need come into play, people start to want to be recognized in society. According to Maslow, at this level we focus our energy on self-respect, respect from others, and feeling that we have made accomplishments in our lives. We strive to move upward in careers, to gain knowledge about the world, and to work toward a sense of high self-worth:

(see <http://allpsych.com/personalitysynopsis/maslow.html>, 2004).

Usually when people introduce themselves to one another they ask “what do you do?”. Some people flounder and become sick or feel “less respected” when they lose their jobs as well as their fancy home or car. Anyone who has moved from a supposedly desirable occupation to one that is deemed less so can vouch for the feeling one gets when one sees the expression change in others’ eyes. So in order to win the approval of others, we drive ourselves to work extremely hard, make money and be successful, to have a nice home design, a cool car, a better body, sexy wife, and nice furniture. To be able to say how busy we are (that is, how successful and, therefore how important) at the weekly social gathering at the family house, parties, or in the *Dywaniya* is part of our self esteem (Crawford, 2005, p.100).

In all aspects of life, after they have become stable and rooted in their society, people need to feel special and unique and have a high evaluation of themselves. As a result, they will gain respect from others. In fulfilling the need for self-esteem, people get strength, confidence, freedom, prestige, status, a reputation and recognition by others. In addition, with satisfaction of the need for self-esteem, the desire for power and control, capability and self-confidence, being worthy and useful also flourish. These lead to people beginning to feel that they are valuable and have some influence on their society.

Thus, lack of self-esteem leads people to feel helplessness, inferiority and inadequacy (Maslow, 1954). We all need to be recognized in all aspects of life, whether we are a student in the classroom recognized by the teacher, an employee recognized by the boss, or at home being recognized among family members.

An extension of this is in neighbourhoods, where people love to be recognized by their home design. Lawson, quoting Morris, said:

One of the important features of the family territory is that it must be easily distinguished some way from all the others. Its separate location gives it a uniqueness, of course, but this is not enough. Its shape and general appearance must make it stand out as an easily identifiable entity, so that it can become “personalized” property of the family that lives there. This is something which seems obvious enough, but which has frequently been overlooked or ignored, either as a result of economic pressures, or the lack of biological awareness of architects. (Lawson, 2001, p.32)

Recognition that we have all been created different; have different languages and tunes, different talents and professions, different culture and topography is what magnifies life's richness and appreciation of each other.

The need to feel different and recognized is the main reason that the Kuwait government's public housing has not succeeded, because all the houses are plain. All have the same design, colour, identity, and the same façade; they look like Figure 30.



Figure 30. A street of government public housing in Kuwait

(Source: the author.)

Even though the residents in these houses are not allowed to do any changes in their house design and its façade so it will not interfere with the overall appearance of the neighbourhood, every family that has moved into these houses has ignored the government rules and started desperately trying to make a gesture or any mark to identify their house to differentiate it from their neighbour's (see Figure 31).

Indeed “personalizing” the family house does much more than this; it sends a signal to the other people who pass by about some of the values, taste and the status of the people who live there. The whole ensemble tells us not only that these people are house-proud, but also something about their lifestyles and personalities.

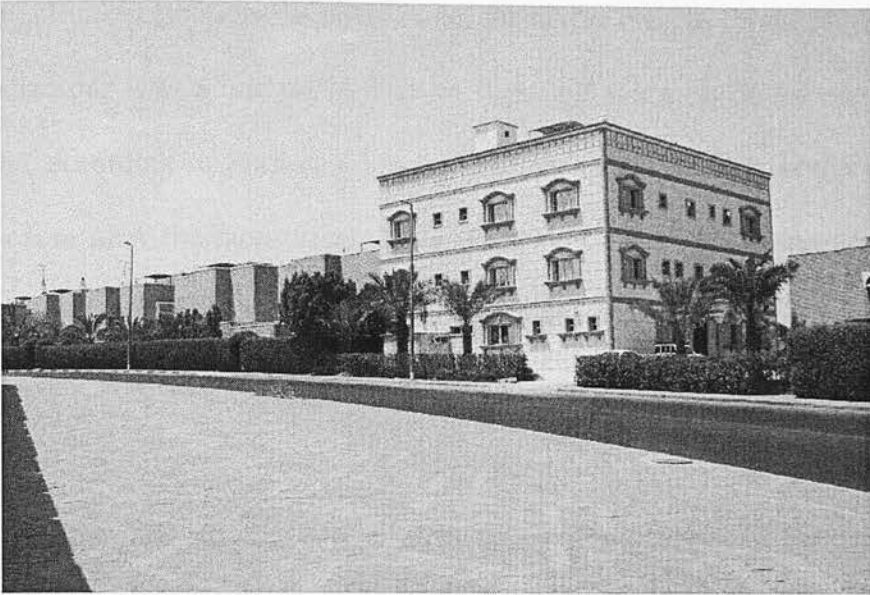


Figure 31. An attempt to differentiate the house from its neighbours

(Source: the author.)

Designers and legislators must be aware of how to fulfil the need for self-esteem in house design as living in a well-designed house creates confidence and self-pride for the people who live there. Home design is one of the areas where individuals can show their well-being and status. Thus, designers and legislators must take this need into consideration and examine ways to satisfy it.

5.2.5 Self-actualization Needs

Self-actualization is described by Maslow as an ongoing process in which a person is involved in a cause outside their own skin. People on this level of need to work at something very precious; this is a vocation or a calling in the old priestly sense. Such people are very fine, wealthy, healthy, strong, wise, and creative. Maslow also called self-actualization the motivation for growth or being (B-Needs) in contrast to deficit motivation (D-Needs). Maslow suggested that only two percent of the people in the world achieve self-actualization (Norwood, 2006, p.4).

Our ultimate emotional need is to be ourselves. Free to think, play, dream, to realize our talents and skills. Free to shake off the rules of the outside world. This, according to Maslow's hierarchy of emotional derives, is top of the tree. Because after the more urgent ones (Feed me! Love me! Respect me! And so on), Every person is in part his own project and makes himself. (Crawford, 2005, p.128)

To be different in this realm is brilliant, but the common feature of the needs of self-actualization is that their emergence usually rests upon prior satisfaction of the physiological, safety, love and belonging, and esteem needs. It is also true that if a person participates in designing their own house and personalizes it with their taste and character by using unique colour, accessories, or stylistic themes, then they will experience a sense of satisfaction and self-actualization, of being content.

In this case, the designers and legislators in PAHC and Kuwait Municipality should allow the people to participate in the design process and listen carefully to their needs. This could be addressed by having a suitable building code that would give houses their own character and personality, and allow the people to have self-actualization. If this happens, the people would take a full role in shaping their own houses, their environment in the neighbourhood, and community.

According to Maslow, these needs will not be fulfilled as long we are alive, as they grow with us; and they continue to be felt. In fact, they grow stronger as we "feed" them. They involve the continuous desire to fulfil potential, to "be all that you can be". They are a matter of becoming the most complete, the fullest "me", hence the term self-actualization (Boeree, 2006, pp.6–7). Therefore, people who live in a house that they

designed, or participated in the design of, will feel satisfied and have pride, as this house will reflect their prestige and give them confidence as it represents their accomplishments and achievements, whatever their taste in design. This is why the author believes we need guidelines and rules that respect our identity as Kuwaitis but yet represent who we are in a satisfying way.

The “Two Lions House” (*Beat bo asdeen*) is a good example of self-actualization. This is the name for a house in Kuwait owned by a well-known and extremely rich person. This house is not only built in the most prestigious area in the heart of Kuwait city (called Abdul'allha Alsalem) but it has been built and furnished with the most expensive and lavish furniture and materials inside and out, with two massive sculptures of lions made of marble at the main entrance of the house. The whole design looks odd and interferes with the surroundings, but it is an expression of self actualization indicating success and accomplishment.

5.2.6 Cognitive (need to know and understand) and Aesthetic Needs

According to Goble (2004, p.85), cognitive need is the desire to know and understand. Maslow believed that one characteristic of mental health is curiosity. Moreover, he is convinced that children are naturally curious and satisfaction of curiosity is subjectively satisfying; individuals report that learning and discovery produce satisfaction and happiness.

Cognitive needs can be satisfied at an early age in both formal and informal learning environments. Formal learning occurs in places such as schools, universities or companies, and under supervised opportunities for practising skills. Informal or semi-formal learning is concerned with getting knowledge from one's everyday experiences

that comes as a result of interacting with the family daily, talking with people in street, watching TV, exploring the world by travelling, etc. Places such as libraries and museums can provide semi-formal learning but informal learning may take place anywhere (Emhemed, 2005, p.130).

In Kuwait, the new designs for government public houses, “modern and globalized” private houses and the high-rise buildings like Al-Sawaber, which was built as an apartment complex, all fail in this respect. As this study shows, all these buildings were built with no space for children to play, or space that was unsuitable, like the basement where there is no natural light and poor ventilation. They represent examples of a design that did not meet and support the residents’ cognitive needs. This kind of building limits fulfilment of the cognitive needs of their inhabitants, especially the children.

On the other hand, aesthetic needs are mainly concerned with beauty, which differs culturally and is a personal and individual choice. Aesthetic needs are amongst the most influential components of personality development. They are mainly related to space design, nature, garden, open spaces, decoration and building materials. People also connect aesthetic satisfaction to low levels of overcrowding and an uncluttered space or spaciousness, natural or bright colours. In addition, using art and music, and physical and psychological comfort contributes to fulfilling the aesthetic needs (El-Fiki, 2003, p.343).

Nasar claimed:

One of the fundamental goals of design has always been the aesthetic one - the creation of “delightful” rooms, buildings, townspaces, and landscapes. In

attempting to understand the nature of the aesthetic experience, a number of people (e.g., Santayana, 1896) have found it useful to distinguish among sensory, formal, and symbolic interaction between people and their built environments. Sensory aesthetic is concerned with the pleasurable nature of the sensations received from the environment. It involves the arousal of one's perceptual systems, is multidimensional, and results from colors, odors, sounds, and textures of the environment. Formal aesthetics in architecture is concerned primarily with the appreciation of the shapes, rhythms, complexities, and sequences of the visual world, although the concept can be extended to the sonic, olfactory, and haptic world. The appreciation of the associational meanings of the environment that give people pleasure is the subject matter of symbolic aesthetics. (Nasar, 1988, p.11)

Prophet Mohammed said, "Allah (God) is beautiful and He likes beauty". Therefore, people constantly seek beauty in their lives; in body, food, or house. But we have to consider one basic rule; simplicity and honesty, as lavishness and extravagance is rejected in Islam.

In general, over thousands of years humans have striven to beautify their environments and their spaces. Kuwaitis as a Muslim society believe that beauty is a personal reference and dominates the human need Allah (God) has created in us, and has a massive impact on our nature. When a person has become more confident within society, and has fulfilled all the human needs, then they start to appreciate beauty more and start to have stronger feelings towards the aesthetic elements that represent their personality in every aspect, whether in their house, clothes, food or even perfumes. In the end, it is a very personal taste and will vary from one person to another and from

culture to culture, but we all as humans need beauty as an identification of who we are and how tasteful or tasteless we are, no matter where we come from. Alternatively, Maslow (1954) said: “It is very disputable; judging beauty as it is based on one cultural background, heredity predispositions or innate biological tendencies. On the other hand, beauty is a chance to be in peace and comfort”.

On the other hand, in her book *Design through Discovery, An Introduction to Art and Design*, Bevin said:

Since beauty and morality were for centuries associated with aesthetics, beauty was considered the ultimate good. The contemplation of a work of art, therefore, was expected to reward the viewer with a vision of perfection. On a personal level, the artist strives for beauty to create a haven against a brutal world, a means of feeling in touch with universal harmony. Through beauty, one arrives at a measure of freedom- from pain, brutality, and the sufferings of human life. (Bevin, 1994, p.10)

In addition, philosopher George Santayana, delivered a lecture a hundred years ago at Harvard University in which he constructed three main factors for aesthetics:

1. The aesthetic ability is a matter of pronouncing judgment according to our personal character, perception, excitement and delicacy of emotion.
2. Our judgment of art is a result of anthropological factors associated with the human intuition of artistic activity and its diverse expressions throughout history.

3. Aesthetic judgment is psychological, dealing with the reason why we think anything is right or beautiful, wrong or ugly, and how we can distinguish brief preferences and ideals which rest on strange conditions from those which spring from elements of mind shared by all humanity and which thus are reasonably permanent and universal.

In respect to house design, aesthetic needs would be framed and ruled according to the society's features and values. Furthermore, it is self-expression in terms of house beautification. When people live together as a community, values and traditions are passed between them. Usually these values become highly appreciated, especially if they relate to the people's beliefs, as in Islam in Kuwait, and as a result these values are shared and carry many aesthetic qualities that give the houses their character. However, in terms of house design, simple aesthetic qualities are complex and holistic; every person will make their house design different from others' houses. As Crawford (2005) said it beautifully: "home can be filled with things that please the eye, soothe the sense and move us in some way. It can be a playful, spirited, vital place. In short, home is a canvas for self expression".

So, designing a house is not an easy process and designers need to develop a critical yet very thoughtful relationship with their clients so they can design a house that reflects the client's personality and aesthetic needs. Representing one's cognitive and aesthetic needs is sophisticated, as it involves individual taste and desire; but it has to be done as it gives humans full satisfaction in their house and promotes their happiness.

What the author is trying to do in this part is to emphasise that individualism in house design is a necessity as long as legislation rules would frame it within our culture, environment and who we really are. It is a difficult process if the government does not forcefully structure this fact through legislation rules and formal regulation. There is no doubt that the Kuwaiti government has this power; because they have the power to “stuff” families in houses that all look alike with no character, regardless of the family’s personality and its cognitive and aesthetic needs. Equally, by not having any restriction on the aesthetic aspects of house design they are not showing any concern whatsoever about the spirit of the Kuwaiti environment and its appearance. By allowing anyone to do whatever they want to their house we end up with a housing festival that has no identity, function, aesthetic appeal, or relationship with Kuwait.

That is why the old Kuwaiti courtyard houses were successful; even though they looked alike in form and shape from the outside, every house had something to differentiate it from its neighbour, in the shape of the windows, or main door motifs **which correspond to the notion of likeness tempered with difference**. And the interior was a completely different story again. Interiors were beautiful and functioned very well even though there was no Municipality or PAHC, because those houses were built for the people who lived in them, according to their standard of environmental, cultural, and aesthetic needs. They built their houses as Susanka (1998, p.27) said in her book *Not So Big House*, “Our houses can express our personalities, in that they can be designed to accommodate our changing lifestyle, and they can be built for the future by taking care of the present”.

Chapter 6 Space Syntax

6.1 Introduction

Peponis argued:

Researchers should consider using space syntax when their research requires that they describe with precision how spatial environments enable or impede user's behaviors. Space syntax provides a unique foundation for evidence-based learning and design precisely because it provides a systematic framework for comparing environments and their performance. (Peponis, 2005, p.4)

As part of the deductive approach of this research it is useful to discuss the theory of space syntax and how it might be applied to enhance social interaction and promote well-being within the house, and to identify the theoretical issues that should be considered in any legislation concerning the interior architecture of Kuwaiti housing. In order to examine the topic from a broader perspective, the researcher has undertaken a wide literature review in the field of interior architecture and housing theories.

Through the use of space syntax, it is possible to examine the relationship between the characteristics of the physical layout and the social environment. As a result of this study, principles may be distilled which could be added to house design and building legislation. The examination of the theory of space syntax promotes an understanding of how housing spaces affect people's appreciation of their everyday activities within their homes.

Rapoport (1977, p.3) stated: “People act and behave differently in different settings [...] This implies that the built environment provides cues for behaviour and that the environment can therefore be seen as a form of non-verbal communication”.

This research seeks to collect various pieces of scientific evidence that could provide guidance to Kuwaiti legislators for the development of housing legislation. Thus, it is important to understand that the theory of space syntax is built upon a view of space as a social phenomenon. Therefore, space syntax has a lot to contribute to this research. Kuwaiti legislators and designers have a massive responsibility to pay more attention to aspects of interior architecture design in housing legislation. It is possible that, via space syntax, interior architecture could add serenity to people’s lives within their houses to make them homes.

There is much evidence that shows how Muslim societies have developed a unique way of using space. This Islamic way has developed from different religious and social customs and values, and as a result of climatic adaptation. For instance, privacy has been the motivation behind maximum segregation in the house from the outside world. On the other hand, some spaces within the house need to be very integrated to allow for socializing and participation in community life. Al-Sanafi & Islam stated:

There has always been a large area of commonality based upon the courtyard in this design due to the customs and practices originating from the principles of Islam. Design criteria for a house generated by these practices played as important a role as the physical needs of human comfort in the evolution of the traditional courtyard house of Kuwait. The courtyard, therefore, ideally suits both climatic and religious imperative. (Al-Sanafi & Islam, 2006, p.90)

This research seeks to adopt the theory of space syntax in order to examine the ideas behind this concept, and to explore and evaluate the interior spaces of two examples of a local Kuwaiti traditional courtyard house and a modern governmental house.

Housing legislation plays a major role in people's lives within their houses; it can affect how people integrate, connect and relate housing to existing urban development and how they integrate spaces within the house. And in return it affects their interaction as dwellers and their use of the space within their houses. Thus, implementing a space syntax-based method could help to create integrated, safe and usable spaces and as a result vibrant and pleasant spaces to live, work and play in.

6.2 The Development of Space Syntax Theories

Space syntax is a method for describing and analysing the relationship between spaces of urban areas and within buildings. The term was conceived by Bill Hillier and colleagues in the 1980s at the Bartlett School of Architecture, University College of London. In 1984 Bill Hillier developed a theoretical approach to space based on the understanding that different societies and ways of life tend to generate specific ways of using space. This social space is manifested in the way it is subdivided into a hierarchy that ranges from public, prominent and accessible spaces, down to private, individual and enclosed spaces (Emhemed, 2005).

The concept of space syntax is that “spaces can be broken down into components, analysed as networks of choices, then represented as maps and graphs that describe the relative connectivity and integration of those spaces” (Wikipedia, 2007). Since then, space syntax has been applied to predict the correlation between spatial layouts and

social effects in various types of projects ranging from specific buildings to whole urban settings, as well as in discussion of issues such as crime, traffic flow, social cohesion and many other issues.

Since its introduction, space syntax has become a tool used by researchers in the fields of architecture, interior design, urban design, planning and others. The analysis relies on a variety of software programs to facilitate the analysis of graphs of spatial components.

6.3 Space Syntax Analysis as a Tool for Interior Architecture

Space syntax analysis has proven very successful in assisting researchers and design professionals to determine the suitability of their hypotheses and design decisions. Space syntax analysis can be implemented in projects of different sizes and scales. Many published works have shown it being applied to smaller scale studies of interior spaces and furniture layouts as well as the urban design of large cities. Although projects may vary in size they share the same general principles that concern designers – functionality, human behaviour, and space integration for the best use of the space. According to John Peponis:

Space syntax studies the principles we use when designing our houses. It can be introduced as an attempt to make explicit the spatial relationships that underlie our everyday experience of the designed environment and the way it functions culturally and socially. Space syntax is about identifying, representing, and measuring the spatial relationships that help us get on with our lives. The creation of these relationships is among the main purposes served by our built environment. And while we would not be able to live our everyday lives without a working understanding of the principles and constraints that govern these

relationships, their deliberate creation or transformation through architectural design requires theory. The aim of space syntax is to arrive at an understanding of principles of spatial design and a critical evaluation of precedents and prospects. (Peponis, 2007, p.1)

Barry Goodchild quoted Ledewitz (1991, p.261) on how space syntax helps to classify the internal layout of the interior space, in terms of interior space, the exterior, and the boundaries:

In spatial terms, the cell consists of an interior space, an exterior space, a boundary, an opening in the boundary (entrance) and an entrance space. The corresponding social components are the domain of the inhabitant (interior), the domain of the stranger (exterior), the separation or control over interaction (boundary) and the opportunity for encounter (entrance), at which point a stranger becomes a visitor. (Ledewitz, 1991, p.261)

Then Goodchild stated:

From this simple formulation, the space syntax enables a classification of the internal layout in relation to the degree of depth (the number of doors or access points between a room and the front entrance); linearity (whether a room opens off another or from a central hall) and circularity (multiple relationships between rooms). (Goodchild, 1997, p.27)

In the study of interior spaces the analysis of lines of movement and visual fields can be very helpful in assessing occupancy patterns. In the case of work place analysis, Sonit

Bafna showed that the layout of an office (in this study it could be a house) influences the social organization activities and the pattern of work. His research results demonstrated that

Local but repeatedly implemented design decisions, such as those regarding the shape of the cubicles or the degree of enclosures of workstations, have more systematic effects on the resulting spatial structure of the layout than global decisions such as the imposition of an overall circulation grid. This suggests that the design of furniture and office systems affects overall layout properties more powerfully than previously understood. (Bafna, 2003)

Erincik Edgü1 and Alper Ünlü (2003) in their paper titled *The Relation of Domestic Space Preferences with Space Syntax* examined the existence and quality of relations between the behavioural preference of the user and the spatial syntax of the house. They studied the Atasehir Satellite City Project that was contracted to private enterprise by the Turkish government. Atasehir is located on the Asian side of Istanbul, and is preferred by middle/upper class families. Their case study was divided into two stages: the first one comprised an interview with real estate agents in order to determine the most preferred housing typology; the second stage randomly selected 35 occupants at each of the selected three house types found as a result of stage one. The research used space syntax analysis in order to explain the relationship between spaces and their consequences. The researchers carried out different calculations to come up with Value of Solidarity (M2), Shape Number, Mean Depth Value, Relative Integration Value, and the Real Integration Value. In addition, the use of Composite Isovist Centroid Point (CMP) assisted in determining the dimensions of the visual area created by furniture.

The results of their case study showed that houses reflect and demonstrate the relationship between the lifestyles and the spatial preferences of the occupiers. On the other hand, the occupiers also adjust to the possibilities or restrictions provided by the house. According to Erincik Edgü1 and Alper Ünlü:

As the spaces become wider and extended departing from quadratic forms, their mean depth values increase. Deepening the spaces decreases the social control, level of perception and social interaction. Increasing the depth of spaces in dwelling, leads family members to stay apart from each other, by individualizing their activities. The integration and dimensions of living room-kitchen connection and accessibility to some certain spaces from the others are given great importance by the elderly. L shaped living rooms permit an easier furniture setting compared to the quadratic forms. Furthermore, furniture setting is related to the dominant social control of the house. However, these forms increase mean depth values decreasing the level of visual field thus decreasing the desired socialization. (Edgü1 & Ünlü, 2003, p.8)

In their paper titled “*My bedroom, my world: Domestic space between modernity and tradition*”, Francine Carreiro de França and Federico Rosa Borges de Holanda (2003) tried to demonstrate the way space syntax analysis can inform designers about the preferred type of organization of space for middle class inhabitants in Brasilia, Brazil.

The study took a sample of 27 middle class houses in the capital and observed issues such as accessibility of spaces, existence of alternative routes among different spaces within the house, whether the system is comprised of open or closed spaces and the proportion of circulation to activity spaces. The researchers have considered these

findings in tables and by the use of justified graphs to show the configuration of the house.

Their study demonstrated that local houses share many characteristics that reflect local values and common lifestyles. According to de França and de Holanda, “Houses may be very different visually, but they are very similar from the point of view of spatial strategies which constitute lifestyles” (de França & de Holanda, 2003). At the conclusion of the study; de França and de Holanda showed that:

These attributes point to a clear genotype, which incorporates pre-modern, modern and post-modern traits. “Brasilia-middle-class-way-of-living” revealed by home use/occupation patterns and configurationally characteristics, combines modern conceptions (the strengthening of individuality), historical legacies (the living room understood primarily as a visitors’ space), and new choices (the kitchen as a space for family encounters). This suggests a new synthesis in contemporary domestic space. (de França & de Holanda, 2003. p.9)

6.4 Space Syntax, Proximity, and Social Interaction

The design of a given space has a great impact on how that space is used and how often it facilitates interaction among users. Edwards states that:

The theory of Space Syntax focuses on the study of the space within the built form of the settlement. A building achieves its function mainly within its spaces and not through its built form. Accordingly, building create and order the empty spaces in which their purpose and function take place. Social meaning in building take place within the spaces of the buildings, and the ordering of spaces

in buildings is really about the ordering of relations between people. (Edwards, 2006, p.30)

Social activities occur in public and private spaces, indoors and outdoors, and their intensity depends heavily on the quality of layout and the structure of the spaces. For instance, studies revealed that social spaces like living rooms or recreation rooms that are close to residents' bedrooms were used more often by residents than social spaces that are further away (Pinet, 1999). This should influence the designer's decision on the location of the living room or any space where the family is likely to gather. According to Bennet (1977), if the social spaces have enough privacy, the space will be used more. Legislators need to consider designing smaller living rooms to obtain greater intimacy or, on the other hand, enlarging them to accommodate several subgroup conversational settings.

Spaces are capable of affecting human behaviour regardless of their scale. Humans are influenced by their home, work, retail and urban built environment. Yet, the home environment embodies several symbolic, cultural and behavioural values, and remains one of the most influential settings for human behaviour.

One of the main tasks of interior designers, architects and urban designers is the organization of space. Thus, it is necessary for those involved in the creation of the built environment to have an awareness of the effects of their decisions. Space syntax has proved to be a useful tool to analyse and examine the suitability of existing and proposed schemes.

Space Syntax methods can be used to make sense of apparently vague architectural ideas about places and qualities place. This is because many categories of space are essentially patterns of potential human interaction, and therefore can be described in terms of relationships between, places, paths and views. This allows the objective definition of ideas and evaluation of how the spaces will “work” in social terms. (Dine, 2001)

A successful proposal will conform to social norms and local customs, as well as taking into consideration its functional requirements. As mentioned by Hillier (1996), the functionality of space is strongly affected by the positioning within the spatial configuration. Through the use of space syntax analysis one can compare and examine a spatial layout more easily and better than through a typical floor plan.

According to Eva Hornecker; there are two types of space: inhabited space and structured space. Inhabited space is the real space that becomes appropriated through inhabitation and situations, while structured space uses both physical and procedural methods in order to govern the human’s behaviour in space. “Inhabited space and structured aspects of space interrelate, structural aspects effecting the type of interaction evolving and thereby creating place” (Hornecker, 2005). Thus, designers should utilize different methods, such as viewing fields, orientation, proximity and privacy measurements to create socially active spaces.

The built environment of Arab-Islamic societies is constructed upon layers of local customs and traditions. At the urban level it has been successful, with the creation of vibrant places through the promotion of high density areas that encourage mixed-use activities and provide several opportunities for social gatherings. The city is full of

pedestrian streets and intimate squares that provide a safe and inviting open space for children's play and elders' meetings. Traditional planning practices offer citizens a high quality of life through the provision of shaded walkways, benches and drinking fountains. In addition, they create safe and secure environments by the guarantee of the visual control and local public presence (Samizay & Kazimee, 1993).

On the local scale Kuwaiti traditional houses that are based on the traditional courtyard designs used in different Arab-Islamic activities prove to be socially vital for all family members. The characteristics of a typical courtyard house with its rooms located around the courtyard, and the fountains, plants and shades encourage the families and their guests to socialize, interact through outdoor activities, chat, celebrate and carry on different social activities with neighbours and friends. Through the use of space syntax analysis, the location of the courtyard has been shown to be successful and important in fulfilling these functions. On the other hand, through the author's observation and interviews, contemporary houses have been shown to have poor designs that discourage social interaction.

In 1959 Robert Sommer identified spatial and physical arrangements that bring people together and promote social interaction (integration), and spaces that keep people in privacy or apart (segregation): "sociofugal" spaces force people apart and "sociopetal" spaces pull people together (Sommer, 1959). In other words, sociofugal arrangements drive people toward the periphery of a room, as contrasted to sociopetal arrangements, which pull people towards the centre and thereby bring them together. Osmond and Sommer undertook their study by using various furniture arrangements in a hospital ward and observing the number of conversations that took place. When they rearranged the furniture around small tables, changing the space from sociofugal to sociopetal, "the

number of conversations among previously apathetic patients doubled” (Hall, 1974 p.212). In addition, architects who specialize in nursing homes build small social spaces on each floor to encourage interaction among the residents (Alexander, 1979).

Taking into consideration the results of the proximity studies already mentioned, the floor plan of the traditional courtyard house provides a good example of sociopetality in housing, and proximity related to housing. The various courtyards, typically smaller spaces, create intimate feelings that increase socialization on a daily basis (Hilton & Kazmee, 1987). The bedrooms face the courtyard(s), which reinforces the findings that social spaces that are closest to residents’ bedrooms were used more often than social spaces that are further away (Pinet, 1999).

As is the case in several countries around the world where social housing projects were designed without observation of local social values and needs, the author observed that in Kuwaiti modern housing social interaction is very low as the design of the house promotes family segregation in ways that enhance individuality and isolation, due to the design of the layout and lack of facilities and abundance of technology.

6.5 Space Syntax and Spatial Analysis

In general, space syntax is based on the idea that spaces can be broken down into components, analysed, and then represented as maps or graphs that describe the relative connectivity and integration of those spaces. According to Bafna (2003), there are four basic conceptions in space syntax analysis:

Depth measures are measures of how many spaces intervene between one space and another (e.g. from the doorstep to the bathroom in a house). Asymmetry refers to

differences in the depths of two spaces from the same starting point (e.g. the living room may be a number of steps away from the dining room but it is more steps away from the preparation kitchen; on the other hand, a manager's office may be more space away from the corridor than a secretary's office). This often implies hierarchical differences between the spaces compared (e.g. more privacy in the parents' bedrooms).

Convex Spaces are used to analyse building plans by dividing them into the fewest number of largest spaces and creating a graph that represents the spaces and points of access between them, where no line between any two of its points crosses the perimeter. Convex maps are often used during design to enhance programming.

Axial Space or an axial line is a straight line (sight line) that it is possible to follow on foot. These lines are used to analyse building and city plans by drawing all the lines that cross more than one space (e.g. through doors in walls) starting with the longest line, then creating a graph that represents all the lines and their intersections, creating a sort of map. Axial maps are often used to study behaviour (e.g. way-finding) in an environment. They characterize the spatial experience of a route more by the number of turns than by the distance covered.

Isovist Space is the total area that can be viewed from one point.

The particular structure of a certain space can be represented using different types of syntactic maps, based on the measures above. The syntactic maps can be transformed into graphs in order to be analysed. *Integration values* are calculated from depth. When integration values are calculated for lines in an axial map, they correlate with the number of people using the space along that line in a real environment (Bafna, 2003).

For the sake of this research, the author has relied on justified graphs to test the level of integration within traditional and modern Kuwaiti houses. Justified graphs are defined as “a graph restructured so that a specific space is placed at the bottom, the ‘root space’” (Klarqvist, 1993, p.2). All syntactic spaces one step away from root space are put on the first level above, all spaces two spaces away are on the second level, etc. Justified graphs offer a visual picture of the overall depth of a layout seen from one of its points. A tree-like justified graph has most of the nodes many steps (levels) away from the root node. In such a system the mean depth is high and they are described as deep. A bush-like justified graph has most of the nodes near the bottom and the system is described as shallow.

6.5.1 Space Syntax Analysis

A space syntax analysis starts with the division of the study area into convex spaces. A concave space has to be divided into the least possible number of convex spaces (Klarqvist, 1993). Then, all convex spaces are linked by the longest and fewest number of straight lines which illustrates the axial map: “axial maps depict the least number of axial lines covering all convex spaces of a layout and their connections” (Ibid.). After the production of the axial map, a computer program carries out the analysis and shows the most integrated, intelligible and shallow areas with red lines, others with yellow, green and blue lines being less integrated, in that order, so that a blue line illustrates the most segregated, unintelligible and deep areas (see Figure 32).



Figure 32. Example of space analysis (axial map)

(Source: http://faculty.arch.usyd.edu.au/kcdc/journal/vol4/dalton/Main_Frame.htm.)

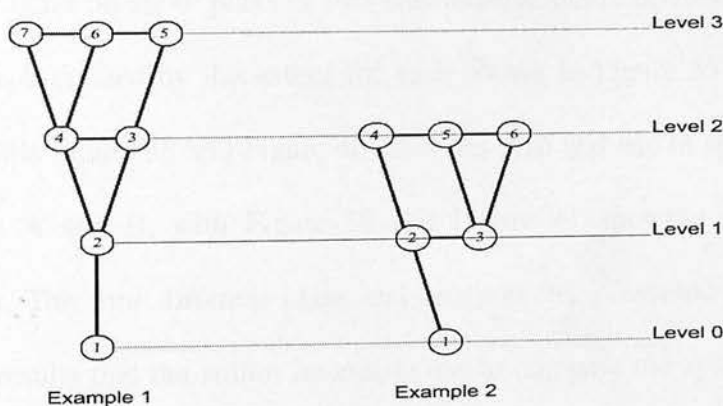
Space syntax analysis works at different scales; it can be implemented to analyse cities, urban space, and houses, as in this study, through the preparation of a particular map that embraces all spaces within the study area. One consequence of many studies of urban spaces by space syntax found that integrated spaces carry greater pedestrian flows than more segregated ones (Hillier & Shu, 1999).

The local scale deals with interior spaces within buildings and with the people that inhabit them. The idea behind local scale analysis is to know how social proceedings are mapped into the spatial structure of buildings and how this spatial structure affects these social proceedings. Space syntax analysis demonstrates the structural network within a building. It illustrates the significance value of every space according to its integration, connectivity and position within the hierarchy of the network.

The justified graph of the traditional house in Figure 34 illustrates clearly the relationships between spaces and how some are strongly integrated and others are at a deep level. As realized in traditional houses, spaces which are shallow in integration are those occupied by male guests and have direct contact with outside public space. On the other hand, household spaces are at the deepest level, they are more private and have no direct contact with public areas.

6.6 Space Syntax Application

There are different computer programs that produce different parameters of each space within a graph. Mean Depth (MD) for a node n is the average depth (or average shortest distance) from node n (space X) to all other nodes. On average, rooms that are more integrated into the rest of the building have lower mean depth than rooms that are less integrated. MD is measured by multiplying the number of spaces at each level by the level where they stand, then adding them together and dividing by the total number of spaces in the system (see Figure 33).



$$\text{MD for example 1} = (1 \times 1) + (2 \times 2) + (3 \times 3) / 7 = 14/7 = 2$$

$$\text{MD for example 2} = (2 \times 1) + (3 \times 2) / 6 = 8/6 = 1.33$$

Figure 33. Example for calculating Mean Depth (MD)

(Source: the author.)

Relative Asymmetry (RA) or relative depth is a product of Mean Depth, it is an integration value. It allows for integration to be measured and compared for systems of different sizes. The following formula is used to calculate Relative Asymmetry:

$$RA = 2(MD - 1)/(K - 2) \text{ where } K \text{ is the number of spaces in a system}$$

This gives a value that varies from 0 for maximum integration to 1 for minimum segregation.

6.7 Analysis of Internal (Dwelling) Spaces in the Kuwaiti House

The aim of this section is to present a space syntax analytical comparative study of the spatial structure of the traditional Kuwaiti courtyard house and the modern Kuwaiti house. It seeks to test the compatibility of both houses with local social customs and norms.

Figure 34 and Figure 36 show plans of two Kuwaiti traditional houses, A and B, with the justified graph created by the author for each shown in Figure 35 and Figure 37, respectively, while Figure 38 and Figure 40 show the plan and use of space in modern Kuwaiti houses A and B, with Figure 39 and Figure 41 showing their respective justified graphs. The four different plans and analyses are presented to increase the validity of the results that the author intends to use to compare the spatial structure of the two types (traditional and modern) of house in order to test the compatibility of design spaces with the inhabitants' lifestyle.

Space syntax analysis examines how spaces are connected and shows whether a space is at a deep or shallow level. The resulting integration value of each space gives a good indication of its significance to the users and can help define the function of the building.

A hierarchy of spaces within houses was established by giving a number to every room according to its proximity to the entrance. Thus the rooms represent nodes that are connected by doors and passageways within the house.

6.7.1 A Traditional Kuwaiti House

The two traditional Kuwaiti houses in Figure 34 and Figure 36 were chosen for analytical study, and the space syntax method was applied using the AGraph software program (Manum). Level 0, the carrier space was assigned to the public space outside the house. Level 1, the shallowest level is for the men's room (*Dywaniya*) and entrance hall. It represents the semi-public space. Level 3 consists of the inner courtyard space which is used mostly by household members. Level 4 consists of family bathrooms, kitchen and storerooms. Level 5, which is the deepest level, contains the main bedrooms of the house.

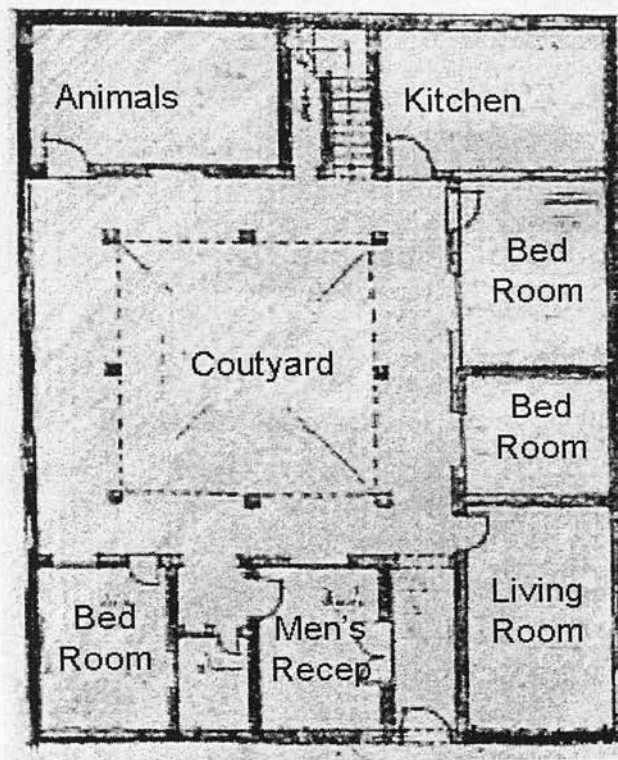


Figure 34. Floor plan of traditional Kuwaiti courtyard house A

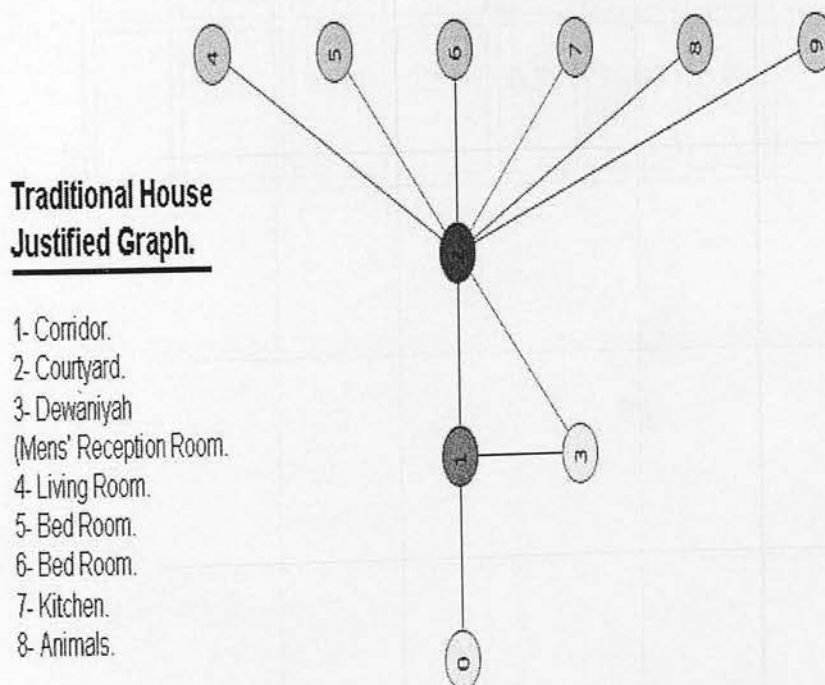
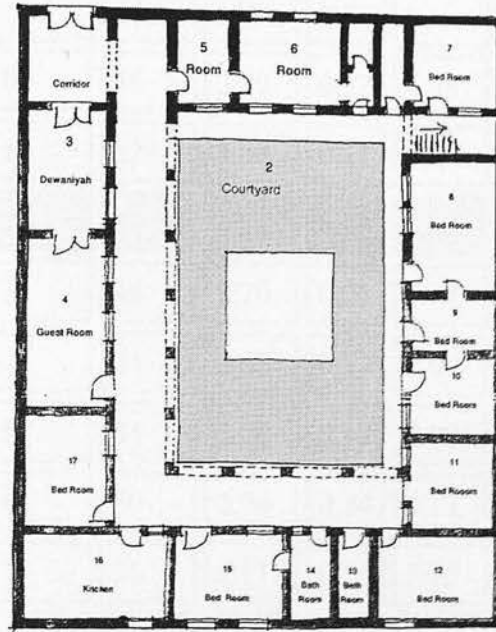


Figure 35. Justified graph for the traditional house A in Figure 34

Table 4. The computed table of Mean Depth for the traditional Kuwaiti house A

		TDn	MDn	RA	i	CV
0	0	23	2.55	0.38	2.57	0.33
1	1	15	1.66	0.16	6.00	1.62
2	2	10	1.11	0.02	36.00	6.83
3	3	16	1.77	0.19	5.14	0.45
4	4	18	2.00	0.25	4.00	0.12
5	5	18	2.00	0.25	4.00	0.12
6	6	18	2.00	0.25	4.00	0.12
7	7	18	2.00	0.25	4.00	0.12
8	8	18	2.00	0.25	4.00	0.12
9	9	18	2.00	0.25	4.00	0.12
Min	10.00	1.11	0.02	2.57	0.12	
	Mean	17.20	1.91	0.22	7.37	1.00
	Max	23.00	2.55	0.38	36.00	6.83



Al Asosi House - Al Murqab - Kuwait

Figure 36. Floor plan of traditional Kuwaiti courtyard house B

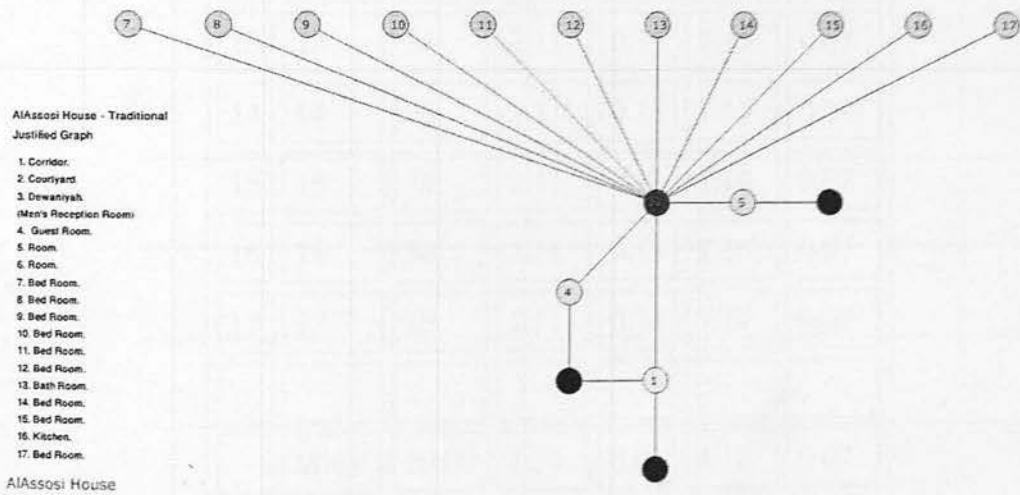


Figure 37. Justified graph for the traditional house B in Figure 36

Table 5. The computed table of Mean Depth for the traditional Kuwaiti house B

		TDn	MDn	RA	i	CV
0	0	48	2.82	0.22	4.38	0.33
1	1	32	1.88	0.11	9.06	1.57
2	2	20	1.17	0.02	45.33	12.33
3	3	46	2.70	0.21	4.68	0.83
4	4	34	2.00	0.12	8.00	0.57
5	5	34	2.00	0.12	8.00	1.07
6	6	50	2.94	0.24	4.12	0.50
7	7	36	2.11	0.13	7.15	0.07
8	8	36	2.11	0.13	7.15	0.07
9	9	36	2.11	0.13	7.15	0.07
10	10	36	2.11	0.13	7.15	0.07
11	11	36	2.11	0.13	7.15	0.07
12	12	36	2.11	0.13	7.15	0.07
13	13	36	2.11	0.13	7.15	0.07
14	14	36	2.11	0.13	7.15	0.07
15	15	36	2.11	0.13	7.15	0.07
16	16	36	2.11	0.13	7.15	0.07
17	17	36	2.11	0.13	7.15	0.07
	Min	20.00	1.17	0.02	4.12	0.07
	Mean	36.66	2.15	0.14	9.01	1.00
	Max	50.00	2.94	0.24	45.33	12.33

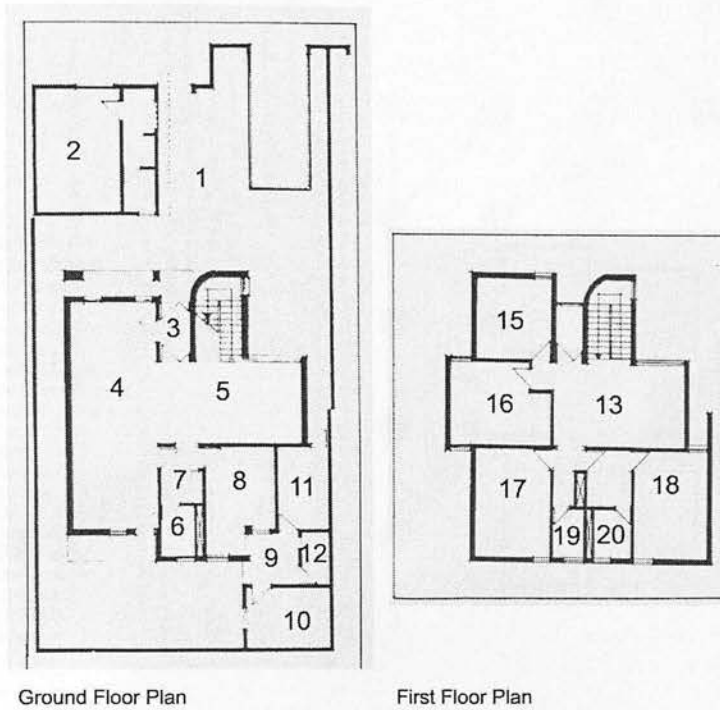
As a result of analysing the spatial structure of the houses, the author found a logical hierarchy of spaces that reflects the socio-cultural segregation between males and females and a great emphasis on privacy. As one can see from the computed values in Table 4 and Table 5 the central courtyard has the greatest level of integration and control, while the men's reception room has the lowest level of control.

The layout of spaces reflects the social structure, norms, customs and religious values of different users. Space 1, the entry hall in the traditional courtyard houses, is a controlling space placed at a shallow level as a mediator between the men's reception room and the household quarters. In addition, bedrooms are placed at the deepest level since they are used only by family members and require the highest privacy.

6.7.2 A Modern Kuwaiti House

Two modern two-storey houses located at Sabah Al-Salem Area (A) and Al-Qurain (B) built by the Public Authority of Housing Care illustrate a typical modern house in Kuwait (see Figure 38 and Figure 40).

By the application of space syntax analysis one can see that the spatial structure of the houses shows several deficiencies in the logical hierarchy of the space. For instance, the men's reception room is entered from the house courtyard which is usually used by household members. In addition, the reception room and living room are connected, and so fail to provide the necessary privacy for household members. The computed values in Table 6 and Table 7 show that their Integration Value (i) for modern house A are 5.46 and 5.88 respectively, and their Integration Value (i) for modern house B are 3.42 and 3.63 respectively, revealing that these are the two most open areas and lack privacy.



- | | |
|-------------------------|------------------|
| 1- Outdoor Space | 11- Maid's Room. |
| 2- Men's Reception Room | 12- Bath Room. |
| 3- Entry Hall | 13- Living Room. |
| 4- Reception Hall | 15- Bed Room. |
| 5- Living Room. | 16- Bedroom |
| 6- Bath Room. | 17- Bedroom |
| 7- Circulation Space. | 18- Bedroom |
| 8- Dining Room. | 19- Bathroom |
| 9- Circulation Space. | 20- Bathroom |
| 10- Kitchen. | |

Figure 38. Plan of modern governmental house A

(Source: Public Authority of Housing Care)

Modern House Justified Graph

- 1- Outdoor Yard.
- 2- Entry Hall.
- 3- Dewaniyah (Mens' Reception Room).
- 4- Living Room.
- 5- Reception Room.
- 6- Upper Living Room.
- 7- Circulation Space.
- 8- Bedroom.
- 9- Bedroom.
- 10- Bedroom.
- 11- Bedroom.
- 12- Toilet.
- 13- Dining Room.
- 14- Maids' Room.
- 15- Bath Room.
- 16- Bath Room.
- 17- Bath Room.
- 18- Kitchen.

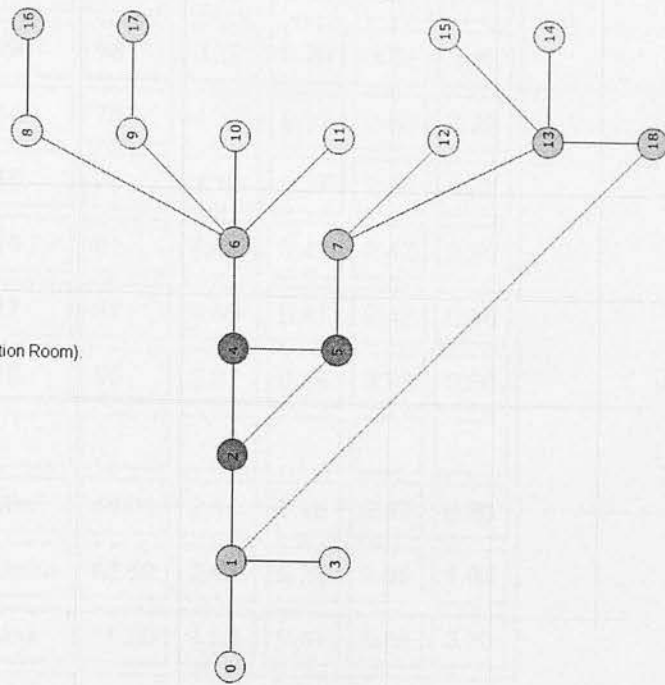


Figure 39. Justified graph of the modern house A in Figure 38

Table 6. Table of Computed Mean Depth for the modern Kuwaiti house A

		TDn	MDn	RA	i	CV
0	0	69	3.83	0.33	3.00	0.25
1	1	52	2.88	0.22	4.50	2.83
2	2	47	2.61	0.18	5.27	0.91
3	3	69	3.83	0.33	3.00	0.25
4	4	44	2.44	0.16	5.88	0.86
5	5	46	2.55	0.18	5.46	1.00
6	6	49	2.72	0.20	4.93	3.33
7	7	53	2.94	0.22	4.37	1.58
8	8	64	3.55	0.30	3.32	1.20
9	9	64	3.55	0.30	3.32	1.20
10	10	66	3.66	0.31	3.18	0.20
11	11	66	3.66	0.31	3.18	0.20

12	12	70	3.88	0.33	2.94	0.33
13	13	58	3.22	0.26	3.82	2.83
14	14	75	4.16	0.37	2.68	0.25
15	15	75	4.16	0.37	2.68	0.25
16	16	81	4.50	0.41	2.42	0.50
17	17	81	4.50	0.41	2.42	0.50
18	18	59	3.27	0.26	3.73	0.50
	Min	44.00	2.44	0.16	2.42	0.20
	Mean	62.52	3.47	0.29	3.69	1.00
	Max	81.00	4.50	0.41	5.88	3.33

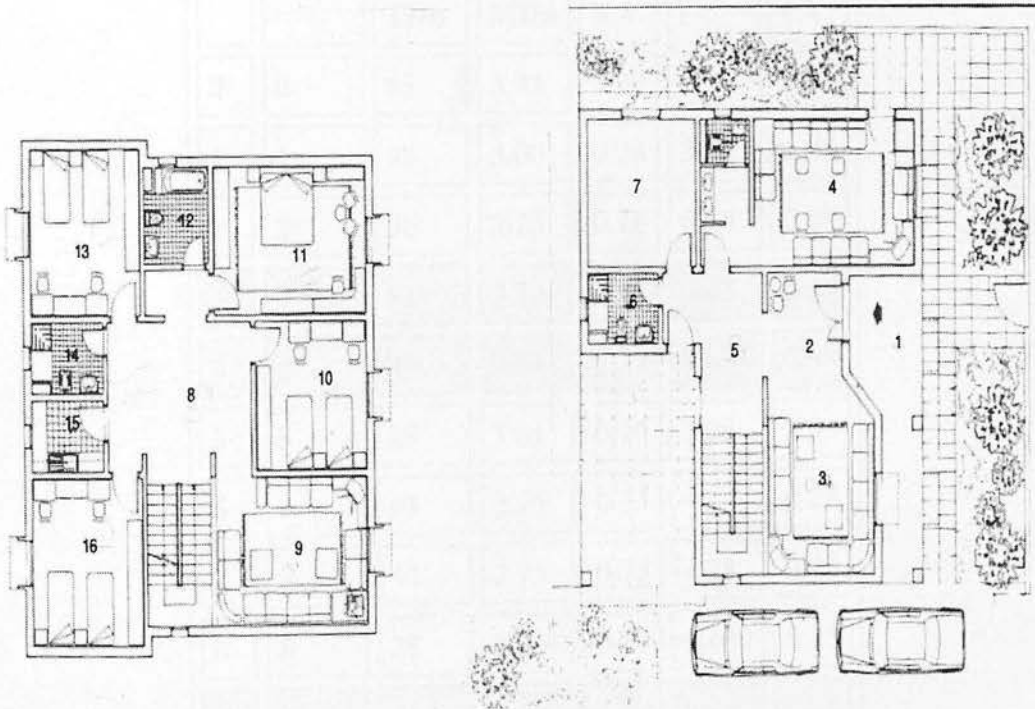


Figure 40. Plan of modern governmental house B

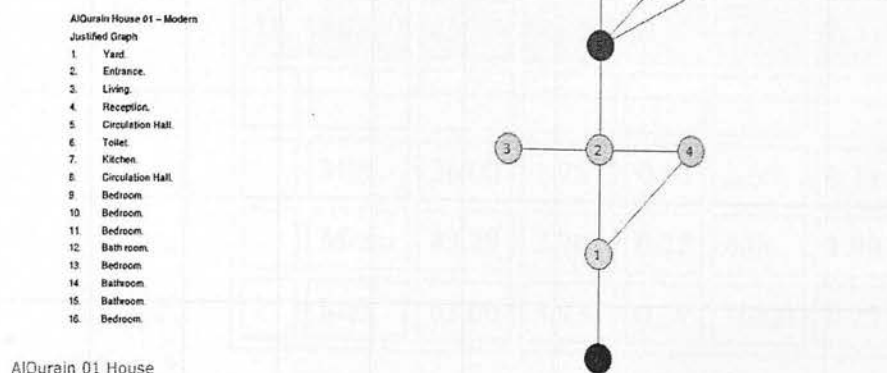


Figure 41. Justified graph for the modern house B in Figure 40

Table 7. Table of Computed Mean Depth for the modern Kuwaiti house B

		TDn	MDn	RA	i	CV
0	0	63	3.93	0.39	2.55	0.33
1	1	48	3.00	0.26	3.75	1.75
2	2	36	2.25	0.16	6.00	2.08
3	3	51	3.18	0.29	3.42	0.25
4	4	49	3.06	0.27	3.63	0.58
5	5	29	1.81	0.10	9.23	2.36
6	6	44	2.75	0.23	4.28	0.25
7	7	44	2.75	0.23	4.28	0.25
8	8	28	1.75	0.10	10.00	8.25
9	9	43	2.68	0.22	4.44	0.11
10	10	43	2.68	0.22	4.44	0.11
11	11	43	2.68	0.22	4.44	0.11
12	12	43	2.68	0.22	4.44	0.11

13	13	43	2.68	0.22	4.44	0.11
14	14	43	2.68	0.22	4.44	0.11
15	15	43	2.68	0.22	4.44	0.11
16	16	43	2.68	0.22	4.44	0.11
	Min	28.00	1.75	0.10	2.55	0.11
	Mean	43.29	2.70	0.22	4.86	1.00
	Max	63.00	3.93	0.39	10.00	8.25

In conclusion, it can be seen that the designers of these particular houses have failed to create a logical hierarchy in the spaces. This leads to a loss of privacy and control, whereas the courtyard houses succeeded more in maintaining the socio-cultural values of Kuwaiti society.

6.8 Conclusion

The author carried a review of the theoretical background of space syntax. This explains how useful space syntax analysis can be to examine the conformity of certain spaces to local values, customs and lifestyle.

The chapter compared two traditional courtyard houses with two modern governmental houses in Kuwait through the use of space syntax applications. The results have shown the greater suitability of the traditional courtyard house to local priorities and customs, as it has a logical hierarchy of spaces that reflects the socio-cultural customs, especially in terms of the segregation between men and women. The numerical results have shown that the courtyard, which is the centre of the house, got the highest integration value

36.0 and 45.33 respectively, while the most segregated spaces that received the lowest values, 4.0 and 7.15, were the bedrooms which need the most privacy.

In contrast, the modern houses lacked a logical hierarchy in the organization of its spaces. The external courtyard lacked privacy, the reception room was open to the rest of the house and the living room provided no seclusion between men and women.

The results of space syntax analysis can assist interior designers, planners, architects, and legislators in creating the most suitable layouts of spaces for Kuwaiti people and their lifestyle and customs.

This chapter shows the need for Kuwaiti legislators to adopt some aspects of the courtyard house design using space syntax theory to create spaces that emphasise people's daily interaction within their houses. Moreover, it is essential to sustain the values of the originality of the traditional courtyard house, and for that reason it is important to explore the issue of sustainability, and this will be discussed in the following chapter.

Chapter 7 Sustainability

7.1 Introduction to Sustainability

In order to arrive at housing legislation that contributes to the overall development of the quality and way of life of Kuwaiti society, it is necessary to take a comprehensive approach to housing, an approach that is aware of several human aspects. Today in Kuwait, after a history of urban growth, housing legislation fails to reflect some of the major issues concerning housing development, such as proper infrastructure, the socio-cultural characteristics of society, and the natural environment. The goal of this chapter is to examine the concepts of sustainable development and highlight the importance of applying them to housing legislation in Kuwait.

In general, housing is a complex issue that has been given great attention by planners and designers. The rapid growth of Kuwait City since the development of the oil industry has increased the importance of housing, making it even more important to arrive at legislation that constitutes sustainable development.

Overall, this chapter employs the concepts of sustainable development to produce an in-depth perspective from which to establish a body of knowledge that can be set to use by legislators to form a framework for comprehensive housing legislation.

Since the UN conference on environment and development commonly known as the Earth Summit held in Rio de Janeiro in June of 1992, the concept of sustainability has been at the centre of attention and many governments have begun to take a series of

measures to limit the negative impact of human growth and activities on the natural environment.

The three components of sustainable development

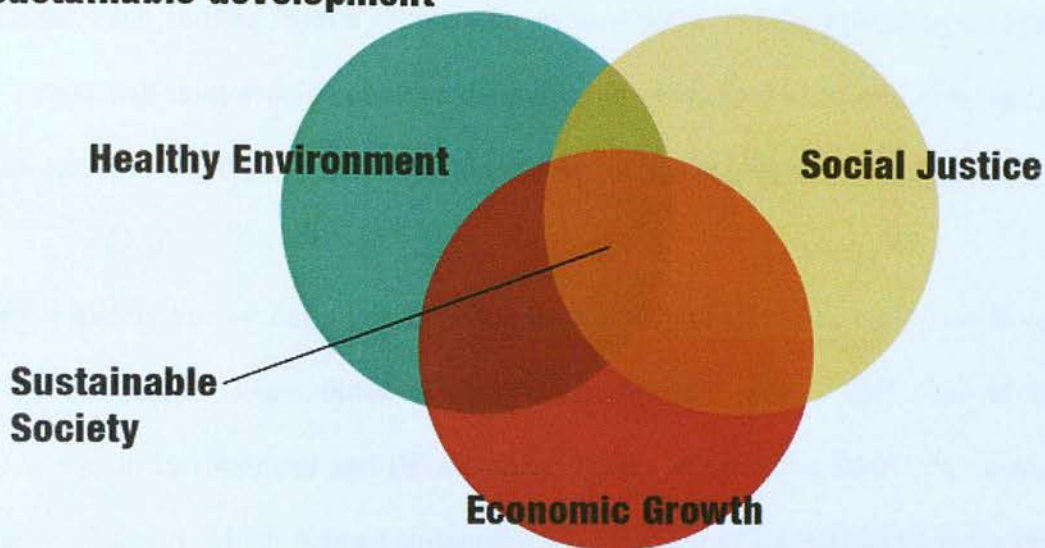


Figure 42. The three dimensions of sustainable housing

(Source: http://www.myacpa.org/task-force/sustainability/img/venndiagram_homepage.gif.)

This chapter aims to present a comprehensive approach to sustainable development that covers the three main dimensions of sustainable development: environmental, economic, and socio-cultural, based on Edward's definition (see Figure 42):

Sustainable Development is the product. The process must, in the field of housing, address five distinct fields:

- The conservation of natural resources (land, energy, water).
- The sensible re-use of man-made resources.
- Maintenance of ecosystems and their regenerative potential.
- Equity between generations, people and class.

- Provision of health safety and security. (Edwards, 2000)

7.2 Definition of Sustainable Development

Throughout its evolution the term sustainable development has had many different definitions, each coming from a source with its own point of view and its own angle. This section will review some of these definitions to examine their contribution to the concept and examine their applicability to the study of housing legislation in Kuwait.

The most widely known definition of sustainable development, or as we call it in our field as designers “Green Building” or “Green Design” comes from the World Commission on Environment and Development, known as the Brundtland Commission in their 1987 report, which defined sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”.⁵

Another definition was presented by the preparatory meetings for the URBAN21 Conference (Berlin July 2000):

Improving the quality of life in a city, including ecological, cultural, political, institutional, social and economic components without leaving a burden on the future generations. A burden which is the result of a reduced natural capital and an excessive local debt. Our aim is that the flow principle, that is based on an

⁵ <http://www.bathtram.org/tfb/tE04.htm>

equilibrium of material and energy and also financial input/output, plays a crucial role in all future decisions upon the development of urban areas.⁶

Development implies a progressive transformation of economy and society. In order to achieve sustainable development policies need to enforce measures regarding consumption of natural resources, as well as ensuring social quality between generations and within groups of the same generation. (Ibid. p.45)

In the light of the above definition, it is useful to shed light on two further definitions that could contribute to designers' and legislators' understanding of the general concept of sustainability.

First is the concept of sustainable place, which, according to the American Society for Testing and Materials (ASTM), describes green buildings as structures that are designed, constructed, renovated, operated and reused in an environmentally friendly and energy-efficient manner. Green buildings, including green residences, exhibit a high level of environmental, economic and engineering performance, including:

- Energy efficiency and conservation
- Indoor environmental quality
- Resource and materials efficiency
- Occupant health and productivity
- Transportation efficiency

⁶ <http://www.rec.org/REC/Programs/SustainableCities/what.html#Urban21>

- Improved environmental quality including air, water, and land limited resource, and ecosystems. (Foster, Stelmack & Hindman, 2007, p.3)

Moreover, sustainable society is one that “would be interested in qualitative development, not physical expansion. It would use material growth as a considered tool not a perpetual mandate” (Ibid. p. 40).

7.3 Aims and Importance of Sustainable Development

So far it is not clear that legislators in Kuwait have realized the significance of sustainable development; Kuwait is living increasingly beyond its means. There is an evident negative effect of consumption patterns on the natural environment. It is very important to change Kuwaitis’ lifestyle and patterns of consumption in order to decrease the negative impact on the environmental systems such as water, electricity, land, and air. The people’s involvement is crucial here; none of the above can be achieved if the people do not participate, as it is they who must be responsible for protecting their environment.

The term *sustainable development* goes beyond the boundaries of science and business development and trade to include human development, values, and differences in cultures. In fact, many organizations are referring to *sustainable human development* as opposed to sustainable development in order to emphasise issues such as the importance of participation in decision-making processes, and access to education and health (Rees & Roseland, 1991).

Based on the most commonly used definition of sustainable development discussed earlier: “Development, which meets the needs of the present without compromising the ability of future generations to meet their own needs”, Kuwait must implement legislation that enforces more sustainable development and includes the people’s participation as the government will not be able to do it alone and because without it Kuwait may face an uncertain and insecure future.

There are four levels of sustainable development: the **dwelling**, the **neighbourhood**, the **city** and the **country**.

7.3.1 Sustainable development at the level of the dwelling

Many researchers have given great attention to the **house** as a main element in the framework of sustainable development. Although the house is a home, it is also the main building block of successful communities. The home as a family unit addresses three distinct policy territories, economic development, social welfare and environmental welfare. The more the interactions between these are explored, the greater the success of the housing enterprise (Edwards, 2000, p.25). Moreover,

These communities and others demonstrate the multiple goals of sustainable development. Sustainable development can enhance a sense of place, reduce crime, mitigate natural hazards, conserve energy and resources, preserve culture and heritage, improve traffic circulation, and reduce waste. It can attract more viable economic development as competition among communities for high-quality businesses becomes more intense. Perhaps most important, it can help

relate and integrate the many components of a community to achieve a synergistic whole. (<http://www.sustainable.doe.gov/freshstart/articles/future.htm>)

7.3.2 Sustainable development at the neighbourhood level

The second level of sustainable development is the **neighbourhood**, which is just as important in contributing to the overall goal of sustainable development. If a strategy of sustainable development is to succeed, then it should work to link the house and the neighbourhood in terms of transportation, urban form and land use. Careful examination of these factors and others can alter inhabitants' lifestyles and contribute greatly to sustainable development. Through legislation, governments can push toward sustainable development.

Study shows the negative effect of the car on the environment and lifestyle. However, an increasing number of people are attached to their cars and the planning of neighbourhoods is forcing them to use their cars more because it is failing to provide them with any sound alternative. The key to a sustainable transportation system is the implementation of a transport hierarchy, which gives priority to the pedestrian and public system above the car (Battle, 1991). There are opportunities that help to limit the dependency on cars and legislators can enforce planning principles that promote compact neighbourhoods, and encourage walking, bicycling, and the use of public transport. These measures include limited parking, traffic calming, inexpensive mass transit systems, networks of pedestrian, cycle, and mass transit modes in addition to the promotion of high-density neighbourhoods and mixed-use development that limits the need for the inhabitants to leave their immediate neighbourhood. In addition, designers and urban planners can contribute greatly to the creation of sustainable development.

The climate conditions within urban areas could be modified through environmentally sensitive design. Legislators looking for a substitute for car transportation, should look at other countries' advantages from their experiences in terms of transportation.

Increased Parking Rates: The Canadian federal government increased its parking rates for federal employees in Ottawa, resulting in: a 23 percent reduction in employees driving to work; a 16 percent increase in mass transit use among federal employees; and an increase in average vehicle occupancy from 1.33 to 1.41 passengers (Roseland, 1998, p.116). Discussing the situation in Curitiba in Brazil, he said:

Curitiba's (Brazil) public transportation system is used by more than 1.3 million passengers each day, nearly two-thirds of the population. Twenty-eight percent of express bus users previously traveled in their cars, which translates into savings of up to 25 percent of fuel consumption city-wide. Fuel consumption per head in Curitiba is a quarter less than the Brazilian average, even though car ownership per head is the highest in the country, reversing the normal rule that high ownership means high fuel consumption. Curitiba also has one of the lowest levels of ambient air pollution in Brazil. (Roseland, 1998 p.117–118)

7.3.3 Sustainable development at the city level

The third level of development is the **metropolitan** area. Here legislators play a major role in applying the principles of sustainable development. Although agricultural land is limited in Kuwait due to its harsh environment, land remains a resource that should be protected and consumed wisely. Urban growth has pushed for sprawl, which has contributed to the massive destruction of the natural desert environment. The

government is planning low-density housing and larger plots to encourage the population to move to new suburbs located far from Kuwait city centre (Kuwait Municipality, 2004). Detached governmental public houses have become the most affordable and available choice and are most used by Kuwaitis, therefore any legislation must be supported by a change in the population's attitude and point of view toward housing type and location.

7.3.4 Sustainable development at the national level

Finally, the **national** level is equally important and must be given great attention. Overall strategies must be drawn up to control the consumption of natural resources and protect areas of significance. The general principles of protection of natural resources have two dimensions; to reduce the demand and provide an environmentally sound alternative. Edwards (2000) demonstrated that **land** is an important element to achieve resource conservation:

Energy and water are key resources but so too is land. Over the past 50 years 80% of all land lost from agricultural production has been the result of urban settlement growth, much of it for housing. The housing created has often been low density and supported by other land consuming activities such as business parks, suburban retail areas and massive road construction. Suburban growth in detached and semidetached house consumes four times the land area per family housed, as urban patterns of living (compact terrace and walk-up flats) with nearly three times the amount of energy per household (in space heating and transport). Resource conservation cannot be achieved without a fundamental review of the type, form and location of housing. (Edwards, 2000, p. 23)

In this case, the Kuwaiti government should consider and emphasise the protection of the limited agricultural land from urban settlement growth in order not to compromise the life of future generations.

At the national level, and especially in the case of Kuwait, **water** stands as a scarce resource. There are few underground water supplies and although not enough to serve the needs of the population, these still need to be protected. Kuwait has limited natural fresh water resources and depends on sophisticated desalination plants to supply fresh water. However, these plants contribute to severe environmental damage of the air and sea. There have been a few proposals to reuse treated water for irrigation and other non-human use, however, these have not yet been implemented. Proposals like these should be encouraged to contribute to the preservation of the environment.

In addition, sustainability is associated with economics, society, and environment. However, one common yet fundamental aspect that links them all is the production of waste. Legislators need to pay more attention to the issue of toxic waste, and measures need to be taken to force plants to treat and deal with toxic waste to make it less environmentally damaging before disposing of it.

7.3.5 Human waste and sustainability

So what does waste mean? According to Indigo Development Corporation, waste is a dissipative use of natural resources. Munier (2006) supported this fact by claiming that if waste is released into the air, soil or water there will actually be an unrecoverable dissipation of a natural resource. Therefore, it is believed that the type of waste referred

to here could be better called a by-product, and as a consequence, be seen as having some economic value. As a result the human race has to develop good means of waste management, as well as to reduce the production of waste.

On the one hand, some would argue that waste management is being undertaken properly now, through recycling. However, this is not the case; what is being done is to put waste to new uses, which of course is a very useful endeavour, but it would be better not to produce that waste in the first place so that there would be no need to get rid of or recycle it. A large proportion of the domestic and construction waste and a sizeable part of industrial waste that ends up in landfills consists of usable furniture, mattresses, kitchen utensils, construction materials like window frames, cement bags, wood and iron, etc. (Munier, 2006). In Kuwait, even the notion of recycling has not been seriously and effectively encouraged between local people and has not been promoted enough in the government's priority.

On the other hand, the idea of construction waste did not arise in the past when building the traditional house, as the building materials were the same in all kinds of building, whether school, house, or mosque. Building materials used to be small and collectable and the same components were used almost everywhere, like materials for the ceiling, flooring and walls. In addition they were all easy to transfer to the site and flexible to make, and all builders knew how to make the final product. Other materials like doors and windows and door handles and hinges had to be prepared in the workshop, and again all had almost the same design and shape so doors, windows and water drainage systems were similar in all the traditional houses. The owner used to buy them all at the same time and design the house according to their size and shape, and when the house

was redesigned or demolished these items and materials could be reused in different buildings (Akbar, 1992, p.435).

7.4 Legislation for Sustainable Development

One of the most important strategies to achieve sustainable development is the establishment of legislation and the enforcement of associated laws and regulations. “The state, both at the national and local authority level, is the single most influential party in supporting the achievement of sustainability targets through its position as the largest client of the construction industry, its capacity to offer fiscal incentives and ability to ‘move the goalposts’ by undertaking a review of building regulations” (Dewick, 2002).

Agenda 21 demands that all the countries involved “should develop and enforce integrated, sanction-obliging and effective laws and regulations which are in compliance with well conceived social, ecological, economic and scientific principles”. Since the State of Kuwait has been an active member in the UN and is one of the countries that accepted many international conventions on the environment and development, and will actively continue to be involved with international legislation, it is crucial for the government to continue to develop more rapidly its legislation and enforcement procedures related to sustainable development.

7.5 The Role of Designers in Sustainable Development

Designers, legislators and urban planners can play a significant role in the promotion of sustainable development. In fact, the sustainable design concept can contribute to the

advancement of design and society as a whole. According to the United States Green Building Council, buildings account for 17% of fresh water withdrawal, 25% of wood harvest, 33% of carbon dioxide (CO₂) emissions and 40% of material and energy use.⁷ Also, according to the UK Building Research Institute, in 1996 the energy use of buildings (for heating, lighting and cooling) accounted for 50% of the UK's primary energy consumption, equating to 45% of total UK CO₂ emissions, around 25% of sulphur dioxide and nitrous oxide emissions and 10% of methane emissions. The UK domestic sector is responsible for approximately one quarter of total CO₂ emissions (Dewick, 2002).

Commitment to the principles of sustainable design became an ethical issue that led many professional bodies to develop policies and guidelines to assist their members to employ positive environmental practices. For example, the Royal Australian Institute of Architects has developed the following environmental principles:

1. Maintain and, where it has been distributed, restore biodiversity.
2. Minimize the consumption of resources, especially non-renewable resources.
3. Minimize pollution of soil, air and water.
4. Maximize the health, safety and comfort of building users.
5. Increase awareness of environmental issues. (Vale & Vale, 1996, p.5)

In addition to their role in the design process, designers should be involved in the effort of spreading the mission of sustainability. "Community learning is a process for

⁷[http:// www.usgbc.com](http://www.usgbc.com), accessed 2007.

ensuring that informed decisions for social change are based on the fullest possible public participation and the most effective use of local expertise and knowledge” (Fox, 1995). Sustainable housing projects need to be appreciated by the public. They should reflect images of health, well-being, comfort, and flexibility. As a result, the values of sustainable development must be highly regarded and well protected. Thus, public participation is absolutely essential in the pursuit of sustainable development.

7.6 Sustainable Development for Housing

Within the built environment the housing sector can play a major role in the promotion of sustainable development. According to Scotland’s Sustainable Development Strategy:

Housing in particular can make a significant contribution to sustainability because:

- it consumes large amounts of resources in its construction, maintenance and use
- the construction and use of dwellings make significant contributions to greenhouse gas emissions, especially carbon dioxide
- it is a fixed asset with a long life
- it is central to quality of life and can have effects on transport, health, employment and community. (Stevenson & Williams, 2000)

Moreover, in March 2006 the UK government admitted that it was not going to achieve its target of a 20% reduction in CO₂ emissions by 2010. Ironically, this overlapped with the fact that in April 2006 a private member’s bill, the Climate Change and Sustainable

Energy Bill, received the Royal Assent and, in the same month, new Building Regulation Part L (conservation of fuel and power) came into force. These are framed in such a way as to require buildings to be considered holistically rather than element by element. This is a significant departure which could encourage architects and designers and legislators in Kuwait to work as a team from the beginning of a house design. It will also favour designers who are versatile with 3D modelling software since there is a simplified building energy model (SBEM) with software which aims to make the design process easier (Smith, 2007).

7.6.1 The Importance of Sustainable Housing

A dwelling is a basic human need and its availability, quality and design is an important factor in the determination of the individual's quality of life. Well designed and maintained housing enhances the sense of community and strengthens social interactions and well-being, an important factor in the establishment of sustainable development for individuals and society. Well designed housing projects establish a community's identity and sense of belonging which is another social factor. In addition, housing designed and built with sustainability in mind can have a positive environmental impact. According to the Housing Corporation, "The position of houses, the materials which they are made of, the uses their occupants make of such resources as energy and water, and the availability of public transport/alternative forms of transport all have major environmental implications".⁸ In addition, according to Foster Stelmack and Hindman (2007), the evidence demonstrates the many benefits possible from designing and building using sustainable principles and practices:

⁸ <http://www.housingcorp.gov.uk/>

- Lower dependency on foreign energy sources
- Improved indoor air quality
- Improved operation and maintenance in buildings
- Prevention of pollution and waste generation
- Increased recycling of building materials
- Reduced landfill disposal, waste incineration, and associated pollution
- Increased energy efficiency
- Conservation of precious water
- Reduced life cycle costs
- Stewardships for future generations
- Increased property values (Foster, Stelmack & Hindman, 2007, p.58).

7.6.2 The Environmental Dimension of Sustainable Housing

The ecological aspect has always been a major element of sustainable development. Both the environmental condition of housing and the residents' activities are a major concern for sustainable development. Sustainable housing aims to reduce greenhouse gas emissions, control pollution, and conserve natural resources.

When the building is in use, consideration must be given to the impact of residential activities on the environment, the quality of the living environment, and the consumption of energy and water. In Kuwait, people need to be more aware about the impact of their daily activities on the environment. The harsh weather necessitates the use of mechanical air conditioning. The low cost of electricity does not encourage

residents to implement measures that increase the energy efficiency of buildings. In addition, as the empirical work for this study shows, people's desire for the latest design trends promotes the use of large windows, which contribute to the increase in solar heating inside the house, requiring a great deal of energy to reduce it.

In addition, governments should take action to facilitate and encourage waste recycling. Also, residents should be encouraged to use water prudently. The government has to ensure the provision of salt water for daily domestic uses such as cleaning and irrigation. Governments should also enforce regulations minimizing the disturbance to the local environment, management of construction waste and sensitive choice of materials. Improvement of the local environment through redevelopment and recycling of building materials must also be looked at carefully.

7.6.3 The Economic Dimension of Sustainable Housing

The economic dimension of sustainable housing should be addressed properly in order to arrive at successful and viable development. Designers, manufactures and contractors must present simple and cost effective solutions to promote environmentally friendly development. The public needs to be educated about the long term gains of sustainable projects in contrast to their high initial costs. According to Edwards (2000):

In order to reduce costs and bring low energy design within the reach of first time buyers, it is important that complexity is avoided. Housing design needs to be simple in concept using readily understood drawings so that the contractor can build it well and efficiently. The low energy house will be more expensive to

construct than the standard Building Regulations house but it should not be more difficult to understand. (Edwards, 2000)

Strong regulation should control and limit transgression on the natural milieu. According to Berke and Conroy (2000) sustainable development legislation should promote:

Place-based economy; where local economy should strive to operate within natural system limits. It should not cause deterioration of the natural resource base, which serves as a capital asset for future economic development. Essential products and processes of nature should be used up no more quickly than nature can renew them. Waste discharges should occur no more quickly than nature can assimilate them. The local economy should also produce built environments that meet locally defined needs and aspirations. It should create diverse housing, and infrastructure that enhances community livability and the efficiency of local economic activities. (Berke & Conroy, 2000)

Sustainable development regulations and legislation may face opposition from business enterprises. However, with the right approach the legislation could present opportunities for the success of both businesses and the society as a whole. However, the challenge remains to produce a clear definition for sustainable development that allows for a useful legal rule. According to Pardy:

Without a legal rule, disputes between conflicting interests cannot be resolved, and common resources cannot be sustained. Without a clear meaning, sustainable

development cannot be effectively applied as a legal rule. Business leaders are not always the first to argue in favour of broad, generally applicable environmental laws, but they should be: where those laws are clear and evenly applied, a healthy business environment can result. (Pardy, 1999)

The first fundamental is concerned with the processes of the private sector and the ability of the consumers to afford quality housing, while the second examines the impact of housing activity on the environment. Accordingly, it is important to acknowledge the central role of technology, building materials, and housing design as elements that limit the negative impact of housing activities on the environment. However, this must be achieved with consideration to the financial implications of sustainable housing, since affordability remains one of the major factors that influence consumers. At the same time, it is necessary to work to change consumption behaviours and habits toward more environmentally friendly attitudes (Chiu, 2004, p. 4).

7.6.4 The Social and Cultural Dimension of Sustainable Housing

Sustainability is not just about physical issues, it embraces a whole range of social, aesthetic and economic concerns relating to the well-being of the individual and the community. Social and cultural dimensions play a major role in the achievement of sustainable development. Sustainable housing needs to be adaptable, safe, and healthy, to allow for mobility and provide employment opportunities.

The awareness and motivation of the public to live in environmentally sustainable housing can influence housing producers and governmental housing agencies to apply some of the fundamentals of sustainable housing. These include the sensitive choice of

housing sites, urban planning principles, adequate densities, building materials, construction methods and the application of other methods that improve the quality of life and increase the livability of housing projects. At the same time, residents and consumers have a key role to play in supporting sustainable development through a culture that maintains local values and norms in a way that is reflected in the rates of energy consumption and the use of green design principles, and through economic attitudes that favour housing that is built in accordance with sustainable development methods and uses environmentally friendly materials.

One of the fundamentals of sustainable development is its call to establish equity in all aspects of life and also in housing. Therefore, it is important to measure issues like housing equity, housing standards and the role of government in establishing fairness and equal distribution of services and consumption. Housing policies can have a big impact on promoting equity. In Kuwait, where almost all Kuwaitis depend on governmental housing projects, the role of the government is even more critical. The desirability of a housing project is influenced by different factors such as location, availability of services like schools, markets, etc. and urban design standards like street width, parks and building codes.

The government can play a major role in the promotion of harmonious social relations as a means to establish sustainable housing. On one hand it should work to reduce social discontinuity and conflicts, and on the other it should work to enhance social interaction and reinforce social stability. This can be achieved at different levels, starting from smoothing the relationship between housing producers and buyers, as well as putting in place measures to strengthen communities. Actions such as supporting indigenous and

small businesses like dry cleaners, hairdressers, grocery shops, etc. can narrow the gap among residents and strengthen the sense of community. Moreover, governments should support activities that provide an opportunity for local residents to gain skills, training and local employment. Sustainable development seeks to spread a message of hope and progress to all and allow for collective development. According to RRP International (Responsible Purchasing Policy), the five basic elements to the community include:

- Affordable housing supporting pride & self-reliance;
- Diversified economic development;
- Life-long learning;
- A self-governing, self organizing community; and
- Stewardship of the environment.⁹

Issues like the preservation of the housing heritage and sustainability of local forms highlight the residents' attachment to the natural habitat and their reaction to progress and new technology. Studies show that the physical form is a reflection of culture and social values. In addition, the external form of housing is a result of many particular conditions such as climate, availability of materials and aesthetic values. Thus, the conservation of local forms contributes to the conservation of culture itself.

These factors should be in the minds of legislators, designers and decision makers in the Kuwait Municipality when addressing issues regarding the interior architecture of the

⁹ <http://www.rppintl.com/5elementsframe.htm>

houses, land-use policy, density of development, integration, transportation, social mix, and provision of housing.

Currently humans spend more than 80% of their time in an indoor environment. Certainly the design and condition of the interior architecture influences residents in many different ways. While outdoors, humans can respond to the natural climate in many ways, such as putting on clothes or taking them off, seeking shaded areas or shelter from the wind (Foster, Stelmack & Hindman, 2007).

The problem with modern environmentally sealed buildings is that occupants cannot make these adjustments [...] the heater controls are fixed, the window locks are closed [...] Increasingly today, modification to the living and working environment is needed to deal not with temperature, but with mental stress. (Edwards, 2000, p.28)

Thus, sustainable buildings seek to provide adaptability, flexibility, motivation and more within the interior of the house.

For any major project and planning decision, environmental impact assessment studies should provide a guide for decision makers. And for developers, traditional standards, approaches and methods should respond to guidelines of sustainable development.

7.6.5 Sustainable Housing Design Guidelines

Sustainable housing should be visually attractive and provide an appropriate dwelling and living environment for its users. Dwellings should be designed and tailored to the needs of the occupants and be built to have reasonable levels of cost-in-use over their

full lifetime with regard to maintenance. As much as possible, the designer should involve and consult with future occupants in order to fulfil their particular needs and preferences and take into consideration their response to particular design solutions.

There are a lot of resources that list and suggest sustainable housing design guidelines that could assist designers and legislators to implement sustainable design practices. Stevenson & Williams (2000) have listed eight principles of sustainable design that should be incorporated in dwellings. First, designers should take a **holistic approach** that connects everything together. Designers should pay close attention to the specific **site**; the design of dwellings should react to the natural climate and environment. It should utilize natural lighting and ventilation and encourage the use of renewable **energy sources** for heating and cooling systems. Moreover, it should be sensitive to the ecology wherever possible. Sustainable design should utilize the natural environment to reduce energy use. Designers must aim for durability and **re-use of resources**, since this is more efficient than recycling products and materials. Selection of material should aim to produce a sustainable environment that is a **healthy** one for people. Materials should be natural, durable, recycled materials that are available in the local market. **Simplicity** is crucial as it saves resources and time. The dwelling should be compact for less land use, reducing the need for motorized travel. Also, sustainable design should be **efficient** – good sustainable design produces multiple benefits from one feature. It should provide multi-use spaces within the dwelling to serve different needs at different times. It should be flexible and adaptable to allow for future changes in family organization. Sustainable designers should encourage **participation** at all stages. The involvement of users ensures the perseverance of local customs and traditions. In Kuwait this would mean more focus on privacy and segregation.

7.7 Sustainable Construction

Sustainable construction techniques are becoming increasingly important in the development of new buildings. Governments should push toward the implementation of legislation that enforces the use of sustainable construction techniques. There are many drivers for this, most notably the need to address the causes of climate change, such as carbon dioxide (CO₂) emissions. The need to reduce CO₂ emissions has been made clear with global, national and regional targets set, as well as targets for the amount of energy generated from renewable resources (Mid-Sussex District Council, 2006).

7.7.1 Objectives of Sustainable Construction

The Mid-Sussex District Council in the UK has produced a paper titled *Sustainable Construction - Draft Supplementary Planning Document* which demonstrates achievement of the following objectives as a result of enforcing sustainable construction practices:

1. Construction practices that maximize the use of energy efficiency techniques while at the same time providing healthy living and working environments.
2. Construction practices that maximize the use of water efficiency techniques as well as sustainable surface water drainage systems while at the same time maintaining and improving the water quality of the District's watercourses.
3. Construction practices that maximize the use of services from local businesses and the use of locally sourced materials while at the same time minimizing adverse impacts on existing communities and the environment.

4. To minimize and reduce the current levels of waste generated at the construction and operation stages of all new developments.
5. To increase the levels of electricity generated from renewable resources so that the District assists in meeting the governments targets of 10% by 2010 and the aspiration to double that figure to 20% by 2020 (as set out in the Energy White Paper – "Our energy future – creating a low carbon economy", CM5761, February 2003). Such technology should not be to the detriment of the landscape and townscape of the District. (Mid-Sussex District Council, 2006, p.6)

In addition to the promotion of sustainable construction practices, the Kuwaiti government should encourage the use of local materials as they enhance the sustainability of development in general. Materials should be appropriate to the environment and generated from the local area to be more adaptable and lower the negative influence of transportation and shipping. In addition, the government should give incentives for the use of materials that can be recycled, as well as encouraging the use of local skills and methods of construction.

7.8 Public Awareness

Munier (2006) claimed that sustainability is a difficult and complex issue, and an elusive one. It is enormously critical as it has to deal with nothing less than human beings' survival on this earth. At the speed humans compete in using scarce and limited resources it appears that, unless measures are taken now, the future of modernization, at least as we understand it now, is uncertain, to say the least. It follows that such a complex subject has no simple and straightforward treatment, especially considering that sustainability is not a goal but a process. Sustainability is not merely the jurisdiction

of a government, or something to be left to local authorities, people themselves have to think and live sustainably within their houses. This leads to a better life for the present generation and survival for generations to come, enhancing their ability to cope with the world that they will inherit. As the ancient proverb goes, “We don't inherit the earth from our parents, we borrow it from our children”.

It is evident that there is a lack of awareness in the state of Kuwait about the principles of sustainable development among professionals, let alone the general public. Without a campaign to educate the public about the benefits and necessities of sustainable development practices there can be no success and sustainability will not be accomplished. Moreover, according to Grant (1996):

Planners cannot create sustainable communities without a commitment from community residents to change the way they live on the land, and their attitudes towards it. Local governments can support such change by providing information to people who are learning the skills needed to create sustainable residential environments. (Grant et al., 1996)

Global lifestyles encourage a lot of consumption practices that have a negative influence on the overall development.

Traditionally, many North Americans have defined success in terms of a big house on a big lot. Such cultural attitudes about landscapes, privacy, and leisure may inhibit the willingness to adopt sustainable practices that require social responsibility, and that entail significant spatial and behavioral changes. A

sustainable society operates differently from the one we know. Can we adapt our values and ideas about communities rapidly enough to undertake that responsibility? (Ibid.)

7.9 Conclusion

In the light of the ideas discussed previously in this chapter, the author aims to present a list of guidelines that may contribute to the application of sustainable housing development principles to inspire the legislators in improving the current Kuwaiti housing legislation.

This chapter has given an overview of sustainable development in housing, has presented some definitions and discussed the major issues, and provided some suggestions that may assist in the achievement of sustainability in housing development. The three dimensions of sustainability – environmental, economic and socio-cultural – have been discussed. And a holistic approach was taken to combine the three in a balanced system that promotes comprehensive development. Ecological sustainability aims to preserve natural resources and ensure their use in a sensitive manner. Economic sustainability seeks to ensure long-term productivity, low use-cost, increasing the value of sustainable development through higher awareness. Social sustainability deals with the importance of adaptability of the dwelling, as well as fair and inclusive built environments.

After examination of the previous concepts, one finds that the current Kuwaiti legislation is limited in terms of sustainable development. This can be summarized in the following areas:

1. The legislation has no specific code that deals with pollution waste and recycling of housing.
2. There is a lack of assessment of the significance of natural land. Government is encouraging sprawl on many levels.
3. There is no legislation that promotes high standards in design and construction and the provision of well serviced housing projects.
4. The government should encourage research and present cost-effective options for housing design that exceed the minimum codes and standards.
5. It is essential to enforce higher standards of environmental performance and durability in housing construction.
6. The preservation of historical buildings is weak and demands stronger codes and better methods.
7. Designers of new buildings do not take measures to improve the conditions of interior environments, resulting in poor workplaces, homes and schools and lowering the performance of their users.
8. The state of public transport is poor and many studies in Kuwait have shown that the number of people using it is getting lower every year. Increasingly, people are depending on the car for their travel needs. The state needs to take measures to improve the conditions of public transport, increase its coverage area, and control the excessive use of cars.

Sustainable development aims to meet the needs of current generations and ensure the availability of a well-preserved environment and resources for future generations. At the same time if sustainable development is achieved it can contribute greatly to

improvement in the quality of life. Therefore this chapter has given guidelines about how the ideas of sustainable development might be applied to housing in order to guide the overall development of Kuwait and provide an area where legislation can be introduced to support the move toward sustainable development.

Chapter 8 Analysis of Questionnaire and Qualitative Interviews

8.1 Introduction

The aim of these qualitative interviews was to explore and examine people's perception of the evaluation of Kuwaiti houses. The results of this survey would be of use for future planning and building legislation in Kuwait Municipality. The analysis was based on a qualitative method structured by open-ended questionnaires and face-to-face interviews.

The interviews were divided into three sections, the city, the neighbourhood, and the house. The interviews were conducted by one-to-one meetings, group interviews, and a few questions were answered by the individuals themselves as they were experts in the design field and trustworthy people that understood the motivations for this study. The interviewees were people who live in the new government public houses as well as those living in private houses, as both are facing almost the same problem, that their houses do not fit their needs. More precisely, current housing makes its inhabitants feel alienated from Kuwaiti cultural norms, as it has no identity, or satisfaction, and moreover, the houses have needed constant alteration since their inhabitants moved into them.

First, however, what are interviews and why have they been chosen for this study?

8.2 Data Collection Methods

Interviews consist of oral questions by the interviewer and oral responses by the research participants. (Gall, Borg & Gall, 1996)

Qualitative interviews are naturalistic, autobiographical and social events. An interview can take place as people meet face-to-face or gather in a group in an intimate setting to discuss, narrate or describe experiences and behaviours in depth and in a non-directive way. The aim of interviewing is to access something that is not observable: something hiding in a person's mind, such as feelings, thoughts, or past behaviours. We will discuss the steps of the interviews in both face-to-face style and group style, and shed light on their negative and positive aspects. In this study group face-to-face interviews have been used as a data collection method applied specifically to Kuwaitis. The eight steps on how to conduct qualitative research interviews set out by Gall, Borg & Gall (1996) in their book *Education Research an Introduction*, were followed along with Bill Gillham's face-to-face interview procedures and viewpoints from *The Research Interview* (Gillham, 2000). Finally, all responses are classified into three categories: objects, adjectives, and activities. These classifications have been done according to Dr Ujam's model (see Whitworth, 1992).

8.3 The reasons for choosing interviews for this study

There were several reasons for choosing interviewing as an instrument for this study. Kuwaiti culture is considered a collective culture which tends to promote strong social relations. Families live for generations in the same house, and socializing within the family and neighbourhood is considered part of their daily activities, and plays an important role in Kuwaitis' beliefs as Muslims.

Kuwaitis appreciate an interviewer more if the interviewer visits their house. Doing so is an indication of respect and honour. In addition, if the interviewer invites the interviewee for lunch or dinner he/she will respect the honour of the invitation. A personal visit leads to several benefits. Firstly, interviewees will give more attention to an interviewer's questions because the person is their guest. Second, in Arabic culture in general and Kuwaiti culture specifically, hospitality towards guests is a necessity. Such hospitality builds a comfort zone that helps to set the stage for relaxing conversation and interaction between interviewer and interviewee. Rapport is established so respondents become more interested in the results of the interview and pay more attention to details. Thirdly, interviewees give more accurate responses when talking one-to-one, rather than answering written questionnaires or interviewing via telephone. Moreover, there is almost no trust in the postal service in Kuwait, and few people use email.

According to Bill Gillham (2000):

Face-to-face interviews are enormously time consuming. The actual time spent interviewing is the slightest of it: if no more than the hour to two hours expended on the interview was involved then you could conceivably do a hundred of them, even as a lone researcher working in your spare time. Nevertheless, a hundred one-hour interviews could be as much as 5,000 hours' work. The time-cost factor is emphasized because it is often grossly under-estimated, particularly by the novice researcher, the reality only dawning once you are irretrievably committed. (Gillham, 2000, p.8)

The other, more time consuming, aspects that must be considered are:

1. Setting up and travelling to and from the interview location: This part is very time consuming. Going to meet with the respondent takes more time than the interview itself, as the interviewer must act according to the interviewees' time not their own. Sometimes the interviews cost dinner or lunch just to set the stage for productive conversation, and much of the time the talk is about things that do not relate to the subject.
2. Transcribing the interview: Now the reality of the time required starts to be obvious. If the interview took one to two hours, it will take about five hours to transcribe it into an orderly layout. But the analysis can only be done if the results are written down, and there are no shortcuts.
3. Analysing the interview: Time here will be more in demand and the task is more difficult. Here the focus shifts from the interview to categorizing the responses and repeatedly going over the notes.

8.4 Carrying out interviews and questionnaires

According to Gall, Borg & Gall (1996), there are eight steps in conducting qualitative research interviews and questionnaires. These are: (1) defining and specifying the purpose of the study; (2) choosing and selecting a sample; (3) designing the interview format; (4) constructing and developing questions; (5) selecting and training experienced interviewers; (6) testing the interview procedure several times; (7) conducting the interviews; (8) analysing and interpreting the interview data.

Some researchers develop questionnaires before they have thoroughly considered what they hope to obtain from the results. It is important that you define your research problem and list the specific objectives to be achieved or hypotheses to be tested by the questionnaire. You might start with a broad topic but you should sharpen its focus before beginning on the design of the questionnaire. (Gall, Borg & Gall, 1996, p.291)

8.4.1 Step 1: Defining the purpose of the research study

The purpose of the research will determine the interview structure, and help in designing the interview questions, and choosing appropriately qualified interviewers. According to Meredith, there are three types of research interview: (1) key information interviews; (2) survey interviews; and (3) group interviews.

Focus group and survey interviews are both used in this study as both have been used widely in social studies. The method involves presenting questions to a group of people who are familiar with the research topic. As Gall quoted Richard Krueger to identify the following as characteristics of a focus group:

It is a carefully planned discussion designed to obtain perceptions on a defined area of interest in a permissive, non-threatening environment. It is conducted with approximately seven to ten people by a skilled interviewer. The discussion is relaxed, comfortable, and often enjoyable for participants as they share their

ideas and perceptions. Group members influence each other by responding to ideas and comments in the discussion. (Krueger, 1981, p.18)

The purpose of this study is to improve Kuwaiti house design legislation, and have houses built according to the people's needs and interests. This will be supported by using adaptation and Maslow's human needs motivation theory as an umbrella for this study.

8.4.2 Step 2: Choosing and selecting a sample

Focusing on this purpose raised the question of what should be the population from which to gather the sample. In this study the goal was to cast light on a wider population (Kuwaiti people) so the issue of population validity arises. According to Gall, population validity is:

The extent to which the result of a study can be generalized from the sample that participated in it to a particular population. Sampling on the other hand is: the process of selecting members of research sample from a defined population, usually with the intent that the sample accurately represents that population. (Gall, Borg & Gall, 1996)

Therefore, the population was the Kuwaiti people as Kuwait is small country. Moreover, most of the original Kuwaitis live around the capital, Kuwait City, which is in the centre of Kuwait (see and

chosen from the middle and upper class in Kuwait society, as there are no lower class Kuwaitis, that is, there are no workers, handicraftsmen, builders, cleaners, or low income jobs, as mostly these kinds of jobs are taken by foreigners.

In qualitative research interviewing, the number of samples required is flexible; there are no strict rules regarding how many samples researchers need to take from a population. Michael Patton presumed:

With the same fixed resources and limited time, a researcher could study a specific set of experiences for a larger number of people (seeking breadth) or a more open range of experiences for a smaller number of people (seeking depth). In depth information from a small number of people can be very valuable, especially if the cases are information-rich. Less depth from a larger number of people can be especially helpful in exploring a phenomenon and trying to document diversity or understand variation. (Patton, 1990, p.184)

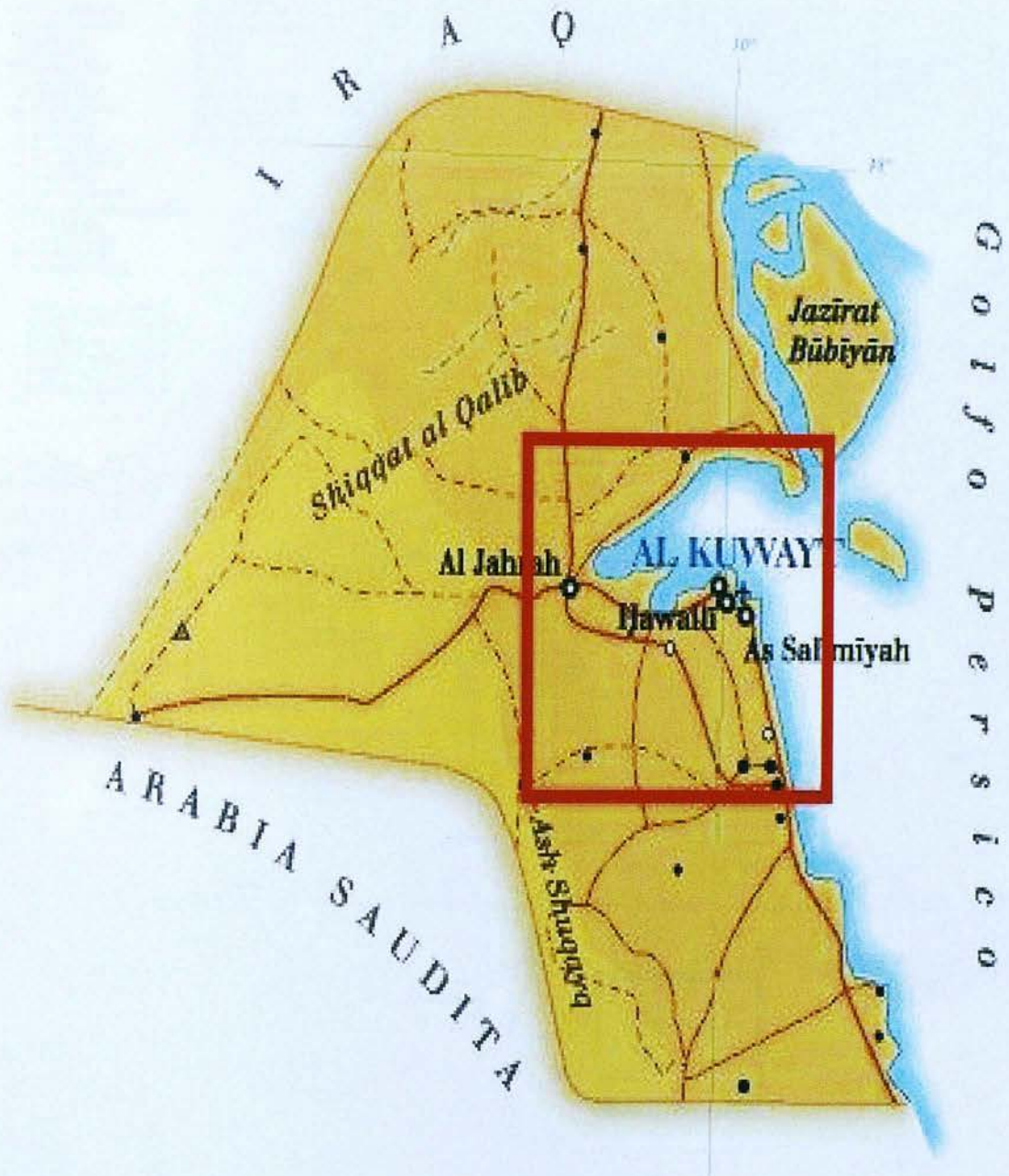


Figure 43. Map showing the position of Kuwait

(Source: <http://www.meatnpotatoes.com/nations/maps/ku-map-big.jpg>.)

(Source: Kuwait Municipality)

In Kuwait when people get together they share more, and conversation lasts longer and becomes deeper as there is time to talk, with the guest (interviewer) still present. It is forbidden to send a signal of boredom; one should continue to give gestures of hospitality until the guest asks permission to leave or stops talking. In this study, the problem was that the 60 questions were so long. It was therefore necessary to split the interview over two to three days, as it was overwhelming to hold people for more than one hour, as Gillham mentioned previously.

8.4.3 Step 3: Designing the interview format

If done properly the design of the interview format will enable rewarding data to be obtained. In qualitative research, the interview format is not tightly designed, so as to allow the respondents to express their own feelings and experiences freely in their own words. That is why it was important to ask the reasons behind almost every answer the interviewees gave. For instance, it was very challenging for some interviewees to know the reason why they had built a basement; the basement is there, it was extremely expensive and took a lot of time to build, yet they regret it because they hate it and it is not in use most of the time.

Gall, Borg and Gall (1996) quoted Patton when describing three main interview formats for collecting qualitative data through open-ended interviews. These are: (1) informal conversational interview; (2) the general interview guide approach; (3) *the standardized open-ended interview*, which was the approach chosen for this study. This is to: “involve a predetermined sequence and wording of the same set of questions to be asked of each respondent in order to minimize the possibility of bias”.

This part did not work well in this study. Even though there was an interview guide, it was sometimes necessary to skip questions and ask them at the end, because respondents were in a state of extreme enthusiasm and the interaction and information provided in answer to a specific question was so important. Sometimes questions had to be re-stated: there were a couple of older people who could not hear or understand the words when the questions were phrased in the same way as for teenagers or other young people, so the interviewer had to go more slowly and use their old fashioned Kuwaiti language (Arabic, but with a local accent).

All the interviews had to be tape-recorded so that the interviewers could observe respondents' body language and take notes. The interviewers were asked to record gestures, changes in voice tone, or signs of excitement or disappointment. Moreover, it was imperative for the interviewers to observe any discomfort or embarrassment caused by the questions to be able to remedy the situation (Babbie, 1990). Even though the interviewers were trained to take notes of participants' gestures and emotions, it was hard to follow this up with women. This is because in Kuwaiti culture women tend to hide their feelings when their male relatives, or sometimes even their husband, are around, but they are braver and more talkative if they are in a group of sisters or with their mother.

8.4.4 Step 4: Developing the questions

The questions should be designed according to the type of interview. In this case, we used Dr Ujam's structured model for open-ended questions, where each question was asked and then followed by other questions asking for the reasons *why* they had given their specific answer. By doing this it was possible to make the respondents think

profoundly about their reasons. As a result, the interviewer could determine what was in the interviewee's mind to obtain genuine and valid responses.

Most books about interviewing reflect foreign (non-Kuwaiti) cultures, resulting in many conflicts arising from cultural differences. It was therefore necessary to find a similar study and subject based on interviewing in an Arabic culture to use as a model for this study to increase its confidence and reliability. For this purpose, Ali Eldweeb Emhemed's dissertation, *Comprehensive Approach to Housing Legislation with reference to housing in Libya* (2005) was selected.

Emhemed's study has been chosen as a model because of cultural and religious similarities between Libya and Kuwait as Arabic Muslim countries. The researcher included some of his interview questions, and adapted several of his methods of training and employing interviewers to this study. In any interview the questions rely greatly on the interviewer, and how he/she orchestrates the interview. This brings us to step five.

8.4.5 Step 5: Selecting and the interviewers

Selecting and training the interviewers is a critical step in qualitative research interviewing.

There is evidence to indicate that matching interviewers and respondents on such variables as social class, age, and gender is likely to produce more valid responses. The interviewer's gender is of particular concern to some researchers. Males and females traditionally have been involved mainly in super ordinate-subordinate relationship patterns. These can affect the interviewer-respondent

relationship, especially when the interviewer is male and the respondent is female. (Gall, Borg & Gall, 1996, p.313)

Two females were chosen to conduct the interviews with female respondents, as the study needed the feedback from women of different ages about their experiences within the house. Because of Islamic regulations it was important to have female interviewers in this study because as a male the author would not be allowed to interview women or observe personal spaces within houses.

8.4.6 Step 6: Pre-testing interview questions

Sometimes researchers are positive that their interviews produce very strong and valid data, yet there is still a high risk of bias. Therefore, interview questions should be pilot-tested, and this should be done on a sample from the same population that the study is to be carried out on. Great attention should be paid to communication problems. Any sign that indicates confusion or discomfort on the part of respondents is evidence for re-designing or removing the question. Also, a pilot test can give researchers a hint as to “threatening questions”. Bradburn and Sudman define these as questions which 20% or more of interviewees feel ill-at-ease talking about (Bradburn & Sudman, 1982, pp.54–82). If a questionnaire contains threatening questions, steps should be taken to minimize and eliminate the threat they pose. Pilot study interviews need to be taped so the interview can be played back to identify problems that may have occurred in delivering questions during the interview.

Interviewers should also take account of the possibility that some respondents may interpret questions differently from the way in which they were intended. If this occurs,

the interview's validity will be uncertain. Pre-testing enables interviewers to identify such questions and revise them so they will be interpreted in the same way by all respondents. Respondents should be encouraged to give their feedback, criticisms, and recommendations about the questions. Also, respondents should be encouraged to state or write in their own words what they think about every question. Gall quoted William Belson, who elicited answers from respondents to 29 questions which incorporated problems of interpretation frequently found in question items (Belson, 1981). He then studied the respondents' interpretations of the questions via a second in-depth interview. On average, only 29 percent of the respondents interpreted the questions within permissible limits of the intended meaning. The findings of this study indicate the importance of pre-testing.

In this study, most of the questions were about the house, which is to some extent a private and sacred space. Pre-testing the questions gave researchers an opportunity to change or cancel some of the questions if they felt that they were very personal, or were not clear to some people who are unfamiliar with house planning or design. For instance, the original wording of question 56 was *Are you segregating men and women in special events? Give 2 reasons*. Some respondents felt uncomfortable answering this question because some Kuwaitis live a more "liberal" life to some extent but they are not happy to talk openly about it as they know they are not following Islamic obligation. Therefore it was necessary to ask this question differently, as: *If you have guests where do the men eat? Alternatively, do you all eat together?* Then the answers must be interpreted.

8.4.7 Step 7: Conducting the interview

A lot of evidence shows that interviewers' behaviour has a large effect on the quality of data. We adapted the following four steps from Fontana and Frey (1994), *Interviewing: the Art of Science*: (1) deciding how the interviewer should present him/herself; (2) establishing rapport; (3) gaining trust; (4) being sensitive to non-verbal information.

1. How the interviewer presents him/herself

In Kuwaiti culture, introducing yourself by saying your name is not good enough. Your family name is important because Kuwait is a small country and people know each other by last names. Your last name opens your history and results in identification, leading to trust and informality. It makes participants more comfortable if they know about the interviewer, and interviewer's interest, family, relatives or field. This kind of attitude established some high-quality communication, trust, and rapport between the interviewer and respondents.

Moreover, appearance is an important issue that interviewers should take into consideration. Interviewers should study the respondents' perspective and expectation of how an interviewer should look, remembering that respondents are sometimes complete strangers, and people in Kuwait and throughout the world do judge others by the way they look. For instance, in Kuwaiti or Arabic Muslim culture, as part of Islamic regulations, a female interviewer is expected to wear a veil and clothing covering most of her body in order to interview a male stranger and the interview has to be conducted in the presence of her relatives.

2. Establishing rapport

The interviewer should determine how much rapport they need with respondents. Sometimes shallow rapport will be enough to get the information a researcher needs, and make the respondents comfortable with the interview process. On the other hand, strong rapport will be necessary to get deeper personal information. It does happen, however, that strong rapport can lead a respondent to talk about things that are not useful for the research. For instance, in Kuwaiti culture it is extremely impolite to interrupt an older person when they speak. Although it is time consuming when a subject moves away from the topic, allowing him to talk will lead to more comfort and more reliable data, but at the same time it is necessary to keep control and diplomatically steer the interviewee back on track.

3. *Gaining trust*

Trust is an important element in interviews, especially if the topic is personal and sharing it with strangers is sensitive. In this study, one question asked, *How is your relationship with your neighbourhood? Is it: good/ bad, reason?* Most interviewees hesitated to answer this question as it reflects the character of their neighbourhood, and neighbours are very sacred in Islam. Muslims are obligated not to mention anything bad about their neighbours, even if it is true, so that was a tough question to be honest with and it required more trust to get to the truth.

4. *Being sensitive to nonverbal information*

This concerns whether the interviewer should stay until the respondents finish their discussion, or whether they should attend to respondents' non-verbal information. Gall cited Raymond Gorden (1981) in distinguishing four different types of nonverbal communication:

Proxemic communication, is the use of interpersonal space to communicate attitudes, Chronemic communication, is the use of pacing of speech and length of silence in conversation, Kinesic communication, includes any body movements or posture, and Paralinguistic communication, includes all the variations in volume, pitch and quality of voice. (Gorden, 1981, p.335)

In theory, none of this applies in Kuwaiti culture, as it is considered rude and offensive to allow a guest (interviewer) to perceive any of these modes of non-verbal communication. As long as the guest has been granted permission to visit and has entered the house, he/she should feel as if it is his/her own home until he/she leaves.

8.4.8 Step 8: Analysing the information gathered

This is the final step in conducting qualitative research interviews. The questionnaire contained about 61 open-ended questions. In order to summarize the information, schedules have been used to show the number of times in which the answers were repeated in the 60 copies of the questionnaire. By this method of compilation, it was possible to divide all the responses into three sections: **objects**, **adjectives** and **activities**. The outcomes of the different relationships between these categories create the visible image of the people's relationship with their houses.

8.4.9 Other issues

In addition to the previous eight steps, there are other important issues that the interviewer should take into consideration when conducting interviews. One of these is choosing the right time to conduct the interview and giving the participants advance

notice of this, as this is an Islamic and cultural requirement. In this study, the interviewees were informed by telephone about two to three days before the interview. The calls indicated the purpose of the interviews, and explained that the information collected would be used as the basis for Ph.D. research at Edinburgh College of Art. The calls were also used to offer choices for the time, dates, and location of the interviews. Each interviewee was interviewed according to his/her preferred time, place and date.

If people are not comfortable they will not be able to function properly, and it will not be possible to pull out the truth from them. While these procedures may seem lengthy with many rules, they are necessary to conduct a successful, reliable and informative interview.

Also, the opening of an interview has a major impact on a respondent's attitude during the rest of interview period, so a number of opening methods should be rehearsed before the interview begins, to choose the best one to create rapport and induce conversation. It is a good idea to get some help from people who are experienced in this field, therefore the author sought help from an interview and question expert professor, Dr Ujam, to help to design the opening question.

8.4.10 Conclusion

Interviewing face-to-face focus groups using open-ended questions has indeed proved to be the best data collection data in research in this field, especially in Kuwaiti or other Arabic cultures, provided researchers study the cultural and social aspects of where the interview is to take place.

At the outset, it was assumed that the author's interview guidelines and structures should be treated as rules; by applying them, immediate and reliable results would be obtained. The reality was completely different, and from this experience an interview could be re-defined as a challenging package of cultural, social, psychological, and extremely human phenomena, which differ from place to place, no matter what kind of questions are involved. Gall's eight steps helped to build up this study's interviews but it was necessary to add a tremendous amount of input in terms of adapting them to Kuwaiti culture, in order to get trustworthy data. After such an adaptation exercise, a researcher can get inside people's minds and interpret the material to get reliable data. Recognizing that human and person-to-person interaction is the basis of Kuwaiti culture enables an interview to succeed in giving a study validity and credibility.

8.5 Analysis of Interviews

This chapter reviews the results of the questionnaires conducted with Kuwaiti residents about life in Kuwait city. Each question is dealt with separately and briefly based on the answers received from 60 residents who completed the interview questionnaire. The answers are discussed in the order in which the questions were asked, starting with personal information and data. The answers are also sorted in accordance with the number being granted to each answer.

8.5.1 Personal Information

Age

The respondents are divided into four groups of ten-year age ranges (see Table 8).

Table 8. Distribution of age of respondents

Age	20-30	30-40	40-50	50-60
No.	18	20	16	6
%	30.0	33.3	26.6	10.0

Gender

The distribution of gender in this survey is as shown in Table 9:

Table 9. Distribution of gender of the respondents

Gender	Male	Female
No.	32	28
%	53.3	46.6

Profession

The survey group contains a number of professions. Each profession is classified as indicated below in Table 10.

Table 10. Profession of respondents

Profession	Number	%
Technician	4	6.6
Undersecretary	1	1.6
Business man/woman	3	5.0
Student	11	18.3
Doctor	2	3.3
Manager	3	5.0
Employee	9	15.0
Broker	1	1.6
Teacher	5	8.3
Consultant	5	8.3
Housewife	1	1.6
Programmer	1	1.6
Chemical Analyst	1	1.6
Officer	1	1.6
Supervisor	2	3.3

Architect	1	1.6
Jewellery Designer	1	1.6
Fireman	1	1.6
Retired	1	1.6
Engineer	6	10.0

Place of residence

The places of residence of the people are classified as indicated below in Table 11.

Table 11. Place of residence

Areas	Number	%
Soliabykhat	2	3.3
Aljabreyah	4	6.6
Abdulah Alsalem	1	1.6
Alsurah	4	6.6
Alfeeha	4	6.6
Alromythya	3	5.0
Bayan	2	3.3
Slawa	2	3.3
Alrawdah	4	6.6
Kheetan	1	1.6
Almiseelah	3	5.0
Grean	2	3.3
Doha	1	1.6
Idylyah	2	3.3
Sabah Alsalem	3	5.0
Ghernatah	1	1.6
Mubarek Alkabeer	3	5.0
Qurtubah	11	18.3
Algadseyah	1	1.6
Aldueyah	1	1.6
Mishref	3	5.0
Alardeyah	2	3.3
Yarmook	1	1.6
Alqusor	1	1.6
Alshameyah	1	1.6
Aljahrah	1	1.6
Alandalus	1	1.6
Aldasmah	1	1.6
Khaldeyah	1	1.6

Period of Residence

The schedule in Table 12 shows the number of people covered by the survey and it is divided into three groups by their period of residence.

Table 12. Period of residence

Period of residence	1-20 years	21-30 years	31-40 years and above
Number	46	7	7
%	76.6	11.6	11.6

8.5.2 Information about Kuwait city

1) Mention 2 areas you would like to live in Kuwait city, give 1 reason for each?

The responses to this question are summarized in Table 13.

Table 13. Desirable areas to live in Kuwait city

Area	Freq	%	Reason	Freq
Idaliya	14	12	Good area design	6
			Low population	2
			Quiet and safe area	3
			Large house space and spacing	6
			Good services	2
			Wide and organized streets	8
			Good people	2
			Close to family house	2
			Close to job	1
			Close to city centre	2
			Large front yards	3
Khaldiya	13	11	Nice area design	6
			Close to city centre	5
			Wide streets / good lighting	8
			Big house space	2
			Good people	2
			Big front yards	3
			Many entrances and exits	2
			Low population	1
			Full services	3
			Quiet area	1

Mishrif	11	10	In the middle of south and north areas	2
			Modern area and houses	4
			No government houses	1
			Quiet and safe area	5
			Good services	4
			Close to family house	3
			Good people	1
			Well planned area	2
			Good streets	1
Nuzha	10	9	Close to work	3
			Low population	5
			Quiet area	4
			Good services	6
			Big housing space	2
			Nice area layout	3
			Wide streets	1
			Big front yards	1
			Good people	3
Rawdha	9	8	Close to city centre	2
			Nice area layout	3
			Good adjacency	3
			Low car traffic	1
			Wide clean streets	2
			Convenient front yards	1
			Good people	3
			Good services	8
			I grew up in it	2
Shuuwaikh	6	5	Quiet area	2
			Close to city centre	4
			Close to family house	3
			Close to city centre	1
			Low population	3
			Quiet area	2
			Good people	1
			Nice and big house areas	2
			Big gardens and parking space	2
Messila	5	4	Wide streets	1
			Low car traffic	1
			Most of my friends live here	1
			Good adjacency	1
			On the beach	4
			Quiet	1
Shamiya	4	3	No pollution	1
			Low population	1
			Large plots	1
			Classic house design	1
			In the middle of Kuwait city	2

			Close to family house	2
			Quiet area	1
			Low car traffic	1
			Low population	1
			Big house area	1
			Good school design	1
			Good street lighting	1
Faiha	4	3	Close to family house	2
			Close to city centre	1
			Good services	2
			Good people	2
			Quiet area	1
			Low people density	1
Salwa	3	3	Good services	2
			Close to the beach	1
			Middle of Kuwait residential areas	1
Sharq	3	3	Close to the beach	1
			Quiet area	1
			Open spaces	1
			High rising buildings	1
			Good services	1
			Traditional design houses	1
			Good people	1
Surra	3	3	Close to family house	2
			Close to city centre	1
			Full services	1
			High population	1
			Well planned area	1
Salmiya	2	2	Close to malls and beach	1
			Lovely commercial area	1
Rumaithiya	2	2	Middle of Kuwait residential areas	1
			Good area design	1
			Well planned roads	1
Bayan	2	2	Low density area	1
			Many entrances and exits	1
			Good street design	1
			Middle of Kuwait residential areas	1
Hadiyah	2	2	Big front yards	1
			Modern and nice houses	1
			Large suburb	1
Mobark Alabdllah	2	2	Full services	1
			Close to family house	1
			New modern houses	1
			Centre of Kuwait areas	1
Qorduba	2	2	Low population	1
			Well designed houses	1
Zahra	2	2	Close to city centre	1

			My current house	1
Mansouriya	1	1	Wide streets	1
			Big front yards	1
			Low population	1
Jabriya	1	1	Nice design houses	1
			Good people	1
			Good house spacing	1
Cadisiya	1	1	Close to city centre	1
			Wide streets	1
Addan	1	1	Modern and new area	1
			Modern houses	1
Qurain	1	1	Modern houses	1
			Organized streets	1
			Full services	1
Qayrawan	1	1	New area	1
			Close to family house	1
Quornata	1	1	New area	1
			Close to family house	1
Fintas	1	1	Close to the beach	1
			Good planting area	1
Salam	1	1	Middle of Kuwait residential areas	1
Bede'a'	1	1	Close to the beach	1
			Good adjacency	1
Jabber Alahmed	1	1	Latest modern area design	1
Abdlla Almubark	1	1	Close to university and Jabber stadium	1
Ardiya	1	1	Good area design	1
			Wide streets	1
			New generation people	1
Yarmouk	1	1	Close to family house	1
			Good services	1
			Well designed area	1
			Good people	1
Sha ab	1	1	Good people	1
			Quiet and safe area	1
Dai ya	1	1	I grew up here	1
	115			

From this schedule we can see that Idaliya, Khaldiya and Nuzha were the most desirable areas that most of the interviewees would like to live in. Their requirements and needs are basic modern items. We will now discuss and interpret several of these items and their reasons in detail.

Most of the interviewees were keen to have a **large land area** like the land in the chosen areas (the house plots in these areas are from 750-1,000m²). However, these houses were built in the 1960s and 1970s. Since the 1980s, the Kuwaiti government has stopped giving this size of land, as there would be not enough land available for the future generations. A large land area would allow people to have good parking space for their cars, a front garden to beautify the façade of the house, and larger rooms, and many other reasons which satisfy their idea that “the bigger the better”, even though this is not comprehensively true. Kuwaitis build huge houses because it is their burning desire to be westernized and modern, but they can not furnish them, the houses have no identity, do not allow interaction between the family members, have no control, and are expensive to maintain and to build.

Another important factor is **safety**; according to Maslow’s theory of human motivation (1954) safety is the second need human beings seek after shelter. That is why most Kuwaitis are keen to live in the areas close to Kuwait city or in areas they consider interior areas like Adaillya, Khaldiya and Nuzha, as they are mostly inhabited by original Kuwaitis who are aware of the culture and tradition, and fully understand their obligations and rights in neighbourliness, making these areas safer and ideal to live in. In addition, these areas have more attention from the government in terms of safety, such as police monitoring most of the time, maintenance, cleaning, modern houses and buildings, public gardens and other features that make these areas look modern.

Moreover, respondents pointed out the importance of **full services and utilities**. There are two reasons behind this. First, most of the new areas which were established after

the Iraqi invasions do not have good levels of utilities and services. As a result, their inhabitants have moved out of these areas. Second, the further the area is away from Kuwait city, the less attention it gets from the Kuwait government, and the more modernized people live there.

Respondents wanted to have houses **close to their families** where the much needed love and belonging takes place and is enhanced by visiting and interaction. They also wish to live **close to where they work** for easy and less expensive transportation, and **close to Kuwait city** for shopping and being close to all kinds of modern features. The main reason behind this interest is that Kuwaiti families were accustomed to living very close to Kuwait city, and close to each other for a long time, especially before the discovery of oil in 1950 when the building revaluation took place that made people live apart and no longer as a group.

Even though prosperity has brought the positive idea of building modern Kuwait city, it has also brought a significant negative influence on the social aspects of living there. By dividing Kuwaiti families into individual houses, it not only separated the families physically, but it also separated them psychologically and socially, which has led to breakdown of the previous close and intimate way of life (Alkhossy, 1972).

2) *Mention 2 areas you do not like to live in Kuwait city, give 1 reason?*

The responses to this question are summarized in Table 14.

Table 14. Undesirable areas and reasons

Area	Freq	%	Reason	Freq
Jahra	20	18	Bad people	6

			High population	2
			Far from city centre	13
			Many foreigners	2
			Bad services and utilities	4
			Bad area design	2
			Bad house design	1
Jabriya	9	8	High car traffic	2
			High population	4
			Few inlets and outlets	2
			Many governmental and commercial buildings	2
			Mix of commercial and residential	1
			Bad street design and signage	1
Mirqab	7	6	Few Kuwaiti families	1
			Noisy	3
			High car traffic	4
			High population	4
			Bad area design and streets	2
			Bad spacing between buildings	1
			Mostly singles	3
			A lot and mix of governmental and commercial buildings	3
			Not safe for children	2
			Far away from schools	2
			No enough parking	1
			Bad street lights	1
			Not clean	1
Hawally	7	6	A lot and mix of residential and commercial buildings	3
			Narrow streets	4
			High car traffic	5
			High population	4
			Bad area layout	5
			Many singles	1
			Bad services and maintenance	3
			Bad parking	1
Jleeb alshiyukh	7	6	Mix of commercial and residential	1
			Bad area design	4
			Bad services and utilities	2
			High population	2
			Many singles	4
			High traffic	1
			Unsafe	1
Farwaniya	6	5	Noisy	1
			Close to airport	1
			Bad area design	2
			Not safe	1

			High car traffic	2
			Many foreigners and singles	4
			Many commercial buildings	2
			Bad services and utilities	1
			Bad streets	1
			Not enough parking	1
Qortuba	6	5	Small house area	1
			Small front yard	3
			No open area for children playing	1
			Narrow streets	5
			High density	2
			High traffic	1
			Bad adjacency	2
Khaitan	6	5	Many singles	5
			Bad services and utilities	1
			High traffic	2
			Unsafe	1
			Many commercial buildings	1
			High population	1
Ferdous	4	4	Bad people	3
			Narrow streets	1
			High population	1
			Bad planting	1
Qurain	3	3	Far from family house	1
			Many cultures	1
			High traffic from and to area	1
			Far from city centre	1
Sharq	3	3	Many commercial and governmental buildings	2
			High traffic	2
			No schools	2
			Many singles	2
			Not safe	2
Dhaheer	3	3	Bad small houses	2
			High crime rate	1
			Separated from other areas	1
Fahaheel	3	3	Many and mix between commercial and residential buildings	1
			Far from city centre	1
			Bad people	2
			Bad services and utilities	1
Salwa	2	2	Bad sewage	1
			High traffic	1
Rumaithiya	2	2	High population	1
			Many inlets and outlets	1
			Singles renting	1
			Very cluttered houses	1

Ahmadi	2	2	Pollution	1
			Far from family house	1
Sabah al-Salem	2	2	Bad adjacency	1
			Unorganized streets	1
			Bad people	1
			Dense area	1
			Old houses	1
Um Alhiman	2	2	Far from city centre	1
			High pollution	1
Suleibikhat	2	2	Old suburb	1
			Far from family house	1
			Far from city centre	1
Doha	2	2	Old suburb	1
			Far from family house	1
			Bad houses design	1
			Bad adjacency	1
Hassawi	2	2	High population	1
			Bad services	1
			Many singles	2
			Many and mix between commercial and residential buildings	1
Suleibiya	2	2	Bad people	2
			Not safe	1
Rabiya	1	1	Narrow streets	1
			Bad services and utilities	1
			Bad people	1
Faiha	1	1	One house design	1
			Bad housing layout	1
			Narrow streets	1
Surra	1	1	High population	1
			Few inlets and outlets	1
			High car traffic	1
Riqei	1	1	Not safe	1
Bneid Al-Ghar	1	1	Mostly singles	1
			Many and mix between commercial and residential buildings	1
			High traffic	1
			High population	1
Salmiya	1	1	Many commercial buildings	1
			High rise buildings	1
			Mix of cultures	1
			Noise / dirt	1
			Narrow streets	1
			Not enough parking	1
Andalus	1	1	High population	1
			Few amenities	1

Qibla	1	1	Noise	1
			High population	1
			A lot of high rising buildings	1
Kaifan	1	1	Cluttered houses	1
			Singles renting	1
Qayrawan	1	1	Old suburb	1
			Far from family house	1
South Surra	1	1	No services	1
Total	113			

People do not want to live in areas like Jahra, Jabriya, and Mirqab. Every one of these areas is located in a critical location in Kuwait (see the map in

First, Jahra is located far away from Kuwait city, and most of its inhabitants are considered to be from tribal roots like Bedouin people, who migrated from the desert of Kuwait to live in the city. People in Jahra have their own culture and norms in terms of inhabitation, cultural/social norms, even interior design and architecture. They do not go in harmony with urbanized Kuwaiti people who are dwelling in Kuwait city or the areas around it. Moreover, because of its location, it is categorized as one of the areas that has been neglected by the government. So it is not considered modern. There is not enough space between houses, which means no privacy. Other reasons why this area is considered undesirable are: old traditional house design; talk about bad views and pollution due to the old plumbing systems and low class service and utilities, high population as each house would have more than one family from the same tribe which causes overcrowding, and a lot of neighbourhood problems and conflict. Because of the differences in class, background, and education, and above all, people feel that it is not safe due to the disrespect of driving laws and poor security.

Second, Jabriya is located somewhat closer to Kuwait city. Its main problem is that in the beginning Kuwait Municipality planned it to be a residential area but with time some of its parts became commercial and full of high rise buildings that led to it being inhabited by many foreigners, most of whom are single, which causes discomfort to the families who live there.

One can imagine how it could be if a high rise building was built between two two-storey family houses. Usually, the ground floor is a multi-use space, which means it may have a women's or men's salon (in Kuwait women's hairdressers and men's hair salons are separate), next to it may be a supermarket, and a clinic or women's tailor, car

garage, and so on. The first issue that would arise here is privacy as many strangers would be going in and out of these businesses.

The other issue is the narrow streets in Jabriya where car parking causes frequent traffic jams with massive amounts of noise and pollution for all the neighbourhood. In addition to all that, it is very difficult to get in out of Jabriya as the street layout is so complicated with no or few signs that are often hidden behind randomly planted trees and shrubs.

The third area is Mirqab. It is considered one of the oldest areas in Kuwait. There are very few Kuwaiti people living there as it is in the centre of Kuwait and is more used for commercial and governmental buildings. Yet many foreigners have lived there for years. It is very crowded with a lot of noise and dirt. Again, because there are no Kuwaitis living in this area these days, many of the Kuwaitis who did live there have exchanged their houses for government money, making this area increasingly commercial. People living in these areas would have little chance of safety, and could not even dream of self actualization or self-esteem whereby one shows who one is in house design, or other aspects of lifestyle.

The main reason that makes people not interested in living in areas like Mirqab, Hawalli, and Jleep Alshiyoukh is the mixing between the residential and commercial sectors. The high traffic most of the day, caused by the narrow streets, as well as the noise, high population, and foreign single males are considered the significant factors that put off people from living in such areas as poor security, the lack of safety and bad utility services increase people's discomfort and affect their well-being. Legislators and designers should consider the harmony between people and the space they inhabit.

Moreover, neglect of a neighbourhood has a profound impact on people's self esteem and actualization.

The next two questions explored what people like (Table 15) and dislike (Table 16) about **modern houses**.

3) *Mention 2 qualities you like in modern buildings, give 1 reason for each?*

Table 15. Good qualities of modern housing

Quality	Freq	%	Reason	Freq
High building	13	13	Nice view	3
			Future needs	2
			Modernized	4
			Look nice	2
			More rooms	3
Car parking	11	11	To park away from street	1
			Organize car parking	2
			Enough parking	8
The design	10	9	Easy to adapt	1
			Functional	6
			Nice	3
Open space	8	7	Easy access	2
			Openness	1
			Beautiful	2
			Children play	2
			Between buildings	1
Big windows	8	7	More light / ventilation	5
			Relaxing / view	4
Colour harmony	7	6	Beauty	5
			Civil image	2
Elevators	6	5	Use creative designs	1
			Easy life	5
Gardens	5	4	For children's play	2
			Relaxing	1
			Nice look	3
Spacious room	4	4	Fulfils all needs	3
			Comfortable	2
New materials	4	4	Modern	3
			Safe	1

Sky light / sky scrape	3	3	Spaciousness	2
			Modern look	1
Lighting	3	3	Nice look	3
Façade	3	3	Modern look	1
			Attractive	2
Calm colour	3	3	Relaxing	4
Waiting area	3	3	Relaxing	2
			Coffee shops	2
Unity of colour	2	2	Beauty to city	2
Technology	2	2	Development	1
			Fire and security systems	2
Old and new design merge	2	2	Keep our identity	2
AC everywhere	1	1	No heat	1
Glass façades	1	1	Openness	1
Unity of height	1	1	Nice city look	1
Double glazed glass	1	1	Blocks sun heat	1
Handicapped facilities	1	1	For needy and old people	1
Total	102			

4) *Mention 2 qualities you don't like in modern building, give 1 reason for each?*

Table 16. Bad qualities of modern housing

Qualities	Freq	%	Reason	Freq
The design	17	18	Exaggerating	2
			No Kuwaiti identity	4
			The construction columns	1
			Not clear direction	3
			No privacy	2
			Bad exterior look	1
			Most houses look alike	1
			Open plan	2
			No lobby	1
			No harmony with surroundings	1
			Bad spacing	1
			Bad room layout	1
Car parking	13	13	Not enough	7
			Blocks entrance door	4
			Unpaved	1

			Bad looking shades	1
Room size	11	10	Small and cluttered	11
Materials	11	10	Cause echo	1
			Too much glass	2
			Expensive	1
			Using sponge	1
			Cheap / unsafe	5
			Unfunctional furniture	1
Colours	10	9	Very dark for interior	2
			Dark for exteriors	4
			Inhomogeneous	2
			Very bright	2
Balcony	9	8	Dangerous for children	2
			Misused	3
			Dirt collection	3
			No privacy	3
Building height	5	4	Non-unified height	2
			Low height	2
			Very high	1
Elevators / Electric stairs	3	3	Dangerous for children	2
			I am afraid of them	1
Too much glass	3	3	Heat	3
			No privacy	1
Small windows	3	3	No good view bad ventilation	3
			Not modern	1
Satellite dishes / water tanks	3	3	Look bad	3
Mix commercial and residential	2	2	High traffic	1
			Not comfortable	2
Trash cans	2	2	Big and look bad	2
Exterior lighting	1	1	Strong and waste energy	1
Swimming pool	1	1	Dangerous for children	1
High rise building	1	1	No proportion with width, and blocking view	1
No fence	1	1	Not safe	1
Total	96			

One can reflect from these two questions that respondents contradicted each other in terms of what they like and dislike. Some of them like glass because it gives openness and spaciousness, while others dislike it because it brings heat and no privacy. Some like elevators to ease their life and others dislike them because they are dangerous.

This indicates that they are confused about what might be useful within their houses, moreover, they show a misunderstanding of the qualities that make houses homes. It seems they are overwhelmingly attracted to modernism, its materiality and its formalism to the extent that they cannot perceive what precisely the quality of a home should be. It is important that people and legislators grasp the essential meaning of home and the human behaviours associated with it, as a person's well-being and happiness depends upon the quality of their housing. Also they need to understand that people's satisfaction within their house in terms of their activities and daily interaction goes beyond merely materialistic qualities, depending heavily on values based on religion/culture, topography/environment, traditional values, identity, familiarity, and other basic human needs that make a house a home.

Home refers to the geographic region, place or dwelling that family members identify as a familiar residence to which they can return. Home is not a physical structure, but a complex symbolic concept. The symbols of home are constructed from references to physical, temporal, and affective, or emotional, dimensions of everyday acts of dwelling (<http://family.jrank.org/pages/782/Home.html>).

8.5.2.1 Discussion of Responses

It seems the desire of Kuwaitis to be modernized is growing after the 1990 war. During this period, many Kuwaiti families had the chance to run away from the war and travel around; they discovered how people elsewhere are living. This question reveals how self-esteem, the sense of "Me" and modernization is manifested in the intense

motivation to admire modern building, regardless of its negative aspects and its conflict with the Kuwaiti lifestyle, social/cultural, and daily activities.

Perhaps one wonders why people consider car parking a crucial requirement that enhances people's well-being, and comes in the second best and worst quality in questions 3 and 4. People in Kuwait depend massively on their cars in their daily transportation, as the extensive hot weather prevents people from walking for even a short distance. Thus, providing shaded car parking in front of the building is critical. People sometimes have more than three cars, depending on the size of the family in each house; accordingly, designing a house without bearing in mind the size and location of the car parking lot decreases people's well-being and comfort. That is why the respondents in question 4 didn't like modern building because the designers ignore the need for car parking, which annoys people as they can not find enough space and have to park their cars somewhere else. In contrast to this is the case in question 3, where in traditional building this problem does not exist.

For instance, 18% of the respondents criticized **open-plan design** compared to 9% who liked it. Open-plan is where the rooms open onto each other, especially the reception part (dining and formal reception room, daily living room) that is normally located on the ground floor in Kuwaiti houses. It is obviously not convenient to have such western design as it does not allow sufficient privacy. As Muslims, family segregation and privacy are significant and highly required features in the majority of Kuwaiti homes. This survey showed that 78% of Kuwaitis still using the tradition of segregation in their house. Most of the responses pointed to segregation as an essential need. Moreover, the reality is often not appreciated until the family move into the house. In open-plan

designs women or men are not free to wear casual clothes or talk comfortably. In fact, it will be uncomfortable for both males and females to manoeuvre, socialize freely or even use the bathroom in ease. Such undesirable consequences could be lessened if there was one single wall separating the two groups or, even better, if there was a separate space for each.

Another desirable feature in modern buildings is **big windows**. Even though the Kuwait temperature reaches 50°C, some respondents were interested in having large windows, especially those who had not experienced living in a house with them. So again, the look is what mattered more than function. According to the responses, despite the heat, big windows bring more natural light inside the house and increase ventilation. Also they allow viewing outside and watching life go by; that is, if the family is lucky enough to have their house located in a main street, near the beach, or public garden. The problem is that very few Kuwaitis use expensive durable modern materials like double-glazed glass or *Retro Solar* (steel sheets or blinds located between two sheet glass to reflect the sunlight). Neither are they using construction techniques like tilting the window's position so that it is not exposed directly to the sun. One reason for this is that not all Kuwaitis have been introduced to such techniques or materials, as they have been mainly used in large governmental building, hotels, and a very limited number of rich families' houses. As a result the majority of Kuwaiti families are copying the "modern" look in ignorance of the technicality of such treatment and its functionality. So they end up with a good-looking house with beautiful blue or green sparkling glass windows; but also with expensive annual electricity bills, horrible hot interiors, faded furniture and, last but not least, discomfort because of lack of privacy, as these windows make family members feel exposed to the street. Indeed if the heat issue could be solved

people would be very keen to get the advantage of the sun as having an interior garden, or lighting up the inside of the house makes the house healthy and spacious.

Only one respondent mentioned that she has a **handicapped** son. She begged for attention from the government to have more care and facilities for her disabled son. She said that she “wishes to go with him to the supermarket or public garden just to do normal things and activities that normal people do”. However, because she was living in Alardeyah, which is considered one of the areas that has been neglected by the government, there is no such care. Therefore, she tried to design her house according to a universal design so she and her son could live a normal life.

Now, especially after the 1990 war, modernization has arrived, and handicapped facilities like car parking spaces, ramps, and elevators are being introduced into every new modern building. Now most Kuwaiti houses have an elevator and to 5% of the respondents it had become a necessary feature, as shown in the answers to the use of technology question. Many houses have an elevator, not for handicapped use but as a luxury and to help old parents to move inside the house easily, because it is hard for them to use the stairs. In designing any house, the issue of universal design should be addressed because this is considered one of the future needs, similar to the need for adding a room or kitchen, or an apartment for a son when he gets married.

Moreover, the **durability of materials** is another issue in modern Kuwait housing. In Kuwait there is often a misuse of materials; 10% of the respondents criticized the materials used. The main reason was that the materials are cheap but unsafe, for example oil-based paints, which are prohibited in many countries. Other materials are

expensive but luxurious, like wood floors and marble, but are being used in many ways just for the sake of modernism. It is not safe to paint the whole interior house with oil-based paint and cover the floor with marble. People tend to see marble flooring in commercial buildings and they admire the look and its durability as well as its ease of cleaning, but they do not realize how dangerous it is when it is wet. It is extremely expensive to use it outside so people use it as a flooring material as it gives luxury, is easy to clean, they can afford it and it gives a modern look. There are many people suffering from broken bone accidents in Kuwaiti hospitals because of marble flooring in the houses.

On the other hand, wood flooring is not safe and not practical in Kuwait because of the heat, as it becomes an excellent environment for creatures like earthworms. Also, unless it is an expensive brand, which is not affordable for most people, the heat makes it crack in a matter of months so the family spends a lot of time maintaining it and fixing the cracks. So they end up with cheap materials that give neither good looks nor functionality.

In this survey 45% of the respondents were happy that they do not have a **balcony**. Balcony design became popular in the late 1960s when Kuwaiti families started to spend their summer in Lebanon and Egypt where the balcony is a social space for family gatherings on a daily basis. Indeed, they have cool weather that promotes this outdoor activity and liberal cultures that encourage it. Kuwaitis started to copy this type of design and bring it with them to Kuwait. However, after building the balcony it became merely an outdoor decoration without use, not just because of the weather, but more importantly, because privacy is more critical on a balcony. Women would not be

comfortable sitting on the balcony, as they attract attention in the neighbourhood, especially if there is not enough space between the houses. So in the end the balcony becomes storage space, or space to enlarge the room, or space that some foreigners use to hang out their laundry, making the neighbourhood look uncultured.

The following two questions concerned the features of **traditional houses** that were liked (Table 17) and disliked (Table 18) by Kuwaitis.

5) *Mention 2 qualities you like in traditional building, give 1 reason for each?*

Table 17. Good qualities of traditional houses

Quality	Freq	%	Reason	Freq
Design	35	34	Safe money	1
			No wasted area	1
			Fulfil Kuwaiti family needs	5
			Simple easy to maintain and control	10
			All look alike (modest)	1
			Privacy and secure	6
			Beautiful	8
			Easy access	4
Big wide space	17	17	Future expansion	2
			Easy circulation	3
			Comfortable	6
			Looks huge	3
			Playing / relaxing	3
Materials	9	9	Not extravagant	1
			Durable	4
			Harmony with nature	2
			Good looking	1
			No danger on children	1
			Coloured glass	1
Buildings height	8	8	No need for elevator	1
			Unified and good looking	1
			Small and nice	3
Maintenance	5	5	Simple	5
Rooms	5	5	Big	3
			Directed to courtyard for privacy	1

			Easy access	1
Landscaping	5	5	Add beauty	5
Construction	4	4	Strong	2
			Long life	1
			Good finishing	1
Car parking	4	4	Big	4
Windows	3	3	Good size toward courtyard	2
Doors	3	3	Big and welcoming	1
Colours	3	3	Nice natural colours	2
			Light tones	1
Courtyard	1	1	Privacy	1
High fence	1	1	Security and privacy	1
Total	103			

It was quite a surprise when the results for this question revealed that **35%** of the respondents preferred the old traditional house design compared with only 17% of the respondents who did not. Based on the answers to this question, researchers and legislators should focus more on the traditional courtyard house and study its traditional values and building techniques, its respect for Islamic obligations in terms of housing and family privacy, the ambiguity yet simplicity of its design and space integration.

The traditional design has survived hundreds of years as it is based on an Islamic theme which has given the Kuwaiti family all aspects of a good life in the past with respect to privacy and segregation, being close to family members, and having a safe place for children to play. The courtyard house starts with functionality and ends with beauty, security and control. It goes in harmony with the harsh environment, easy access and clear circulation. It fits the family's needs on a daily basis and can fulfil the family's future needs as it grows, or when its lifestyle changes.

In addition, its **flexibility** to respond to the family's daily activities, such as having a big meal together, drinking afternoon tea, or meet its future needs such as adding more room for another family is most important, as are the materials used, which are durable to build with and allow the space to be redesigned when and wherever it is needed. All these reasons and more make the traditional house design more in demand in Kuwait.

6) *Mention 2 qualities you don't like in traditional building, give 1 reason for each?*

When people were asked to mention what they do not like in the traditional house, they mentioned the **materials** as the most important thing (see Table 18). For instance, there is no heat or sound insulation in the house. However, one could argue that the courtyard works as a heat reductive element. In addition, the building materials of mud and straw used for the house's thick walls work as a heat insulator. "The majority of traditional Kuwaiti houses were made of mud brick (adobe) it is an excellent building material in hot, dry climate it has a higher heat resistance than concrete" (Kamal, 1994, p.519).

Table 18. Bad qualities of traditional houses

Qualities		%	Reasons	
Design	17	17	No verity	7
			Long corridors	2
			Bad looking exterior	6
			Limited height	2
Materials	16	16	No sound insulation	2
			Bad ugly flooring	1
			A lot of maintenance	9
			Using wood	1
			Not strong	1
			No verity	2
Services	13	13	Not enough cooling system	1
			Ugly plumbing pipes	1
			Bad/insufficient design toilets	2
			Low quality and safety	9
Car parking	12	12	Not enough	11

			Not paved	1
Windows	8	8	Small, little ventilation	1
			Get rusted	1
			Not safe	2
			Allow dust and heat	3
			No sound insulation	1
Courtyard	6	6	Affected by weather	6
Accessibility	6	6	Bad for old and needy	5
			Only one entrance	1
Rooms	6	6	Small	4
			Almost have the same size	1
			Not organized	1
Space	5	5	Big and wasted	5
Doors	4	4	Not safe	2
			Allow dust	2
Colours	3	3	Same for all rooms, and the exterior	3
Open space	3	3	Collect dust	2
			Hot weather	1
Lighting	2	2	Bad distribution	1
			Bad for the eyes	1
Gardens	1	1	Small	1
Total	102			

Respondents also expressed a need for **handicapped facilities**; the traditional house design is ideal for handicapped or old people as usually there is no first or second floor and everything is located on one level.

Modern houses have discarded the courtyard and there is no longer a **safe space for children to play** in, and be close to their family's guidance and supervision. In traditional houses the courtyard solves this vital need in daily family life. (There will be more details about the courtyard later on in this study.)

In addition, **privacy** is necessary for women to be more free in wearing comfortable clothes or being without a veil, and to do outdoor activities or socialize daily with the family.

Other respondents mentioned the **utilities and services** such as the electricity and plumbing systems as being a problem in traditional buildings, as they need constant maintenance and care due to their inadequacy and poor quality finish and production. But what if these concerns and disadvantages could be resolved by modern technology, would Kuwaiti people be happy to live in traditional house design? Interestingly enough, 21% would like to have a mixture between modern facilities and the traditional house design, due to its simplicity and flexibility, as well as its security as it usually has only one entrance.

Surprisingly, people even perceive the lack of material that means that all traditional houses look alike as a gesture of modesty and beauty. It makes people stand in one line; there is no space for competition or showing off their wealth. It truly does reflect the simple Muslim lifestyle and belief. In this way they can get the advantages of the modern “on the edge look”, have comfort, be modern, have low maintenance by using technology, and have a design that fits their needs, and improves their lifestyle as a Kuwaiti family.

7) *Would you like to add more about Kuwait city?*

People were also asked if they had anything more they wished to say about Kuwait City.

Table 19 shows their responses.

Table 19. Comments on Kuwait city

Additional comments about Kuwait city
1- Government should pay more attention to traditional buildings
2- Modern building design should respect the Kuwait environment and culture
3- I would like to have more buildings and recreation spaces built according to our needs and weather
4- The city is degrading because of not following the rules
5- We like big houses. I would like to have better planning for the streets and the buildings. It is not easy to shop in Kuwait city any more, because they are mixing plumbing shops with the clothes, and food with fabric stores. I would like to have more direction signs on the streets. Also wider streets as cars are increasing and we still have the same street plans from the sixties
6- I would like to see the empty spaces used. Also rebuilding the old buildings in the same style.
7- Misses beauty. No art fixtures and gardens. Boring at night. Malls and restaurants close early
8- It is the worst capital in the Gulf in terms of urban design.
9- I would like to see the Kuwaiti designers do it according to our culture, tradition, and weather
10- More parking areas.
11- No identity. No comprehensive image. It does not encourage pedestrian movement. Few Kuwaitis like to spend their time in the city, and last not least no handicapped access
12- Streets need widening

In these additional comments, respondents emphasised their view that the government should pay more attention to the design of traditional houses. It is clear that people are aware of the importance of keeping their identity by demanding and showing more interest in the traditional house. Yes, we do need modernism and technology, one respondent said, but we also need these modern houses to respect our identity as Kuwaitis and consider our environment.

Orientation to a place that is considered home may contribute to the social identity of family members. Indeed, Geoffrey Hayward (1977) views home as the manifestation of family identity, which is one type of social identity. Social identity refers to the

knowledge of membership in a group and the emotional significance attached to that group (Tajfel, 1981). Individuals who recognize a common home are part of a group attached to a place. The emotional significance of the group is associated with the affective dimension of home. Thus, home contributes to a social identity that is defined, to a certain extent, by the physical dimension of the home as well as the affective response to the place (<http://family.jrank.org/pages/781/Home-Affective-Dimension.html>).

8.5.3 The Neighbourhood

This section deals with questions about Kuwaitis' attitudes to their neighbourhood.

8) *How is your relationship with your neighbourhood? Is it: good/bad, give 1 reason?*

The responses to this question can be seen in Table 20.

Table 20. Relationship with the neighbourhood

Good/bad	Freq	%	Reason	Freq
Good	45	79	Do not bother each other.	19
			Good interaction	14
			Visits on occasions	7
			Do my religious obligations only	5
Bad	12	12	No contact or interaction	11
			They cause trouble	1
Total	57			

Because of modern house design and its association with the global complicated visiting and socialization rituals, and the long preparation procedures involved in planning a

modern social event, traditional neighbouring values have become less important and are less practised. People have become more competitive to show off their wealth in their house design, furniture, materials and technology, making their house look unwelcoming, which puts people off visiting, in contrast to the simplicity of the courtyard house. On the other hand, some people still maintain these values with good interaction and visiting, and practising what Islam obligates Muslims, regarding neighbouring activities.

9) *Mention 2 qualities you like in your neighbourhood and give 1 reason why?*

The qualities that respondents liked about their neighbourhood are shown in Table 21.

Table 21. What people liked about their neighbourhood

Qualities	Freq	%	Reason	Freq
Neighbours	31	29	Consider neighbouring obligations	21
			Constant visits	10
Streets	19	18	Clean	8
			Wide	7
			Good lighting	2
			No crowded cars	2
Houses	12	12	Modern	2
			Privacy	5
			Look beautiful and varies	4
			Big spaces to play and expand	1
Quiet	11	11	No children	2
			Same level and education	8
			Slow traffic	1
City design	11	11	Big front yards	5
			Good adjacency	3
			Very well	2
			Big public gardens	1
Gardens	8	8	Nice planting in front yards	8
Services	7	7	Supermarkets close to home	6
			New	1
Safety	3	3	Good neighbours	2
			Police cars cruising	1
Close mosque	2	2	Pray all times easily	2

Sidewalk	1	1	Close by	1
Dywaniya	1	1	Socialize	1
Total	106			

Maslow's human needs for self-esteem and aesthetic expression are the main core for this question as 12% of the respondents would like to have **neighbourhoods that look modern**. In Kuwait materialism is important, thus one is judged and valued on the area that one lives, and the neighbourhood. So if one lives in a neighbourhood with nice-looking houses with fancy material on their façades, this reflects on one's lifestyle, attitude and modernity.

The other element respondents pointed out is the desirability of a **front garden**. The front garden is usually located close to the street and attached to the entrance. Most of the time the inhabitants do not spend time in it as the weather is bad, and it lacks privacy, so it is used merely as decoration for the house façade or for the children's toys, as the children would play in the evening or afternoon time when the sun has cooled down. On the other hand, the front garden could become a hazard if it is misused and this was one of the features that some respondents mentioned that they do not like in their neighbourhoods. For instance, people tend to ignore their gardens, especially during summer, and as a result they become obstacles that block the street with dead branches and massive shrubs, and they get dirty and overgrown with weeds.

One of the respondents commented that her neighbours were ignorant of the **neighbouring etiquette** and neighbouring **obligations and rights**. In Islam it is an obligation to take care of the neighbours, helping in any possible way, regardless of

their belief and background. But this respondent reported that when her neighbour held a party or big event, their guests would use her family's car parking space due to the narrow streets and lack of parking lots in the neighbourhood.

Another issue is the **neighbour's background**. As mentioned before, people tend to live in areas where most of the residents have the same background, education, and lifestyle so their interactions are easy. However, in governmental areas where the houses are allocated at random, people are forced to live there as it may be the only chance they have to obtain a house. So a family would have to live in this "given" house with no idea what their neighbours are going to be like. In many cases conflict arises when there is a modern educated family living next to a tribal family that has a completely different lifestyle and attitude in terms of interaction with neighbours, women, education, hospitality, weddings or even simple manners like saying hello.

Social interaction, or lack of it, is primarily conditioned by whether there exists an economic, political, or ideological sphere of interest in common among the residents. If these factors are not be found, there is no basis for interrelating (Gehl, 1987, p. 55).

10) Mention 2 qualities you don't like in your neighbourhood and give 1 reason?

People were asked what they did not like about their neighbourhoods. Their answers can be seen in Table 22.

Table 22. What people did not like about their neighbourhood

Qualities	Freq	%	Reasons	Freq
Streets	22	24	Children playing through garbage	3
			Bad street lights	4

			Crowded car parking	5
			Narrow streets	5
			No clear signs	1
			Needs maintenance	3
			Not safe	1
			A lot of obstacles to slow high speed	1
Safety	10	11	Children drive with no licence	1
			Cars passing fast	2
			People come to nearby shops	4
			People doing obstacles	1
			Need more obstacles	1
			Parking in the basement	1
Front yards	9	10	Misused	4
			Small	2
			Not clean	3
Neighbours	8	9	No interaction	6
			Noisy	1
			Park close to my house no privacy	1
Parking	8	9	Crowded after 9 pm	1
			Not enough	7
Noise	6	7	Children playing all the time	4
			Close to highway	2
No playing area close by	6	7	For children to play	6
Renting	5	6	For singles, not safe for children	3
			No privacy	1
			Crowded	1
Houses	5	6	Not unified style	1
			Crowded city design	1
			Bad design	1
			Bad spacing	2
Sewage	4	4	Water flooded	3
			Need renewal	1
Services	4	4	Bad supermarkets	3
			Trashcans everywhere	1
Close to offices	2	2	Traffic jams	1
			Accidents	1
Gardens misused	1	1	Blocks view and causes accidents	1
Total	90			

Unfortunately, in some areas in Kuwait, especially those that are away from Kuwait city, there are **local shops** and stores, for example, laundry, or food grocer and

hairdressers. These stores are located in the front yards of the houses in the neighbourhood. One can imagine how **crowded** the street would be, and the amount of dirt that would be left. These kinds of stores tend to become gathering stations for teenagers, strangers, males, maids and many customers as well. They would stand there for a long time, talking loudly, playing games and riding motorcycles, despite their noise, and driving cars at high speed and without a licence; it is indeed a disruptive attitude that conflicts with the neighbours' privacy, tranquility and **safety**. One respondent mentioned that she, her mother, her sisters and groups of neighbourhood females used to go to the mosque sometimes during the year, and daily during Ramadan, or used to just visit each other; but they can no longer do that as it has become extremely difficult to move between these gangs.

In the case of most of the respondents, the reason that people ended up with no contact with their neighbours was because the neighbours interfered with their privacy or safety due to bad **adjacency** between houses which makes it difficult to move around inside the house when someone is watching you. In addition inadequate spacing means it is easy to hear what is going on through the walls, such as parents fighting or children playing around in the house. And this is exacerbated if the neighbours have a party or big social event where friends and relatives stay up until late hours of the night with loud music.

The survey also found that 5% of the respondents **rent** part of their house to another family, or sometimes to foreigners or singles which compromises the privacy of the residents.

The next few tables (Tables 19 to 22) show people's concerns about the **impact of their neighbours on their family life**.

As many as 92% of the respondents were very concerned about the neighbour's impact on their family members, children, wives, maids, safety, cleanliness and other things. And 85% of the respondents were very keen to choose their neighbours to avoid any conflict between them. Some of them suggested choosing the neighbours by making a list of the neighbours' last names, and then one could determine where one is interested in living. This may be practical as Kuwait is a small country, and people know each other by the last name; and many families are related to each other.

11) *Do you like to be aware of the events of your neighbourhood? Yes/ No please give 2 examples, and give 1 reason for each?*

The responses to this question are shown in Table 23.

Table 23. Awareness of neighbourhood events

Yes/No	Freq	%	Occasion	Freq	%	Reason	%
No	7	11				Age difference	1
						Don't care	4
						No time	1
						Different lifestyle	1
Yes	53	88	Wedding	37	36	Islamic obligations	35
						Socializing	2
			Death	30	29	Islamic obligations	30
			Eid	12	12	Socializing	7
						Congratulate	5
			Ramadan	7	7	Socializing/ worshipping	5
						Congratulate	2
			New born	7	7	Congratulate, giving gifts	7
			Graduation	5	5	Partying	5
			Hajj	3	3	Congratulate	3

			Health crises	2	2	Show caring	2
			Birthdays	1	1	Interaction	1
Total	60		Total	104			

12) *Do you prefer to choose your neighbours? Mention 2 reasons why, and how to achieve it?*

Table 24. Do you prefer to choose your neighbours?

Yes/No	Freq	%	Reason	Freq	%	How to achieve it	Freq
Yes	51	85	Same background	42	70	Family names list	23
			Relatives/friends	9	15	Don't know	28
						People I know	7
						According to education	1
No	9	15	Meet new people	5	8		
			Don't care	4	7		
Total	60		Total	60			

13) *Does your neighbourhood have an impact on your family in any way? Mention 2 impacts*

Table 25. Impact of neighbourhood

Yes/No	Freq	%	Impacts	Freq
Yes	55	92	Children	27
			Family	24
			Wives	3
			Limited on family	2
			Roamers	1
			Lifestyle	9
			Safety	1
			Disturbance	9
			Clean	2
			Bad habits	9
			Maids	4
			Family fights	9
			My reputation	2
No	5	8	No interaction	5

Total	60			
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14) Mention 2 important customs you like which have been used in the past and you would like to use them now in your neighbourhood, give 1 reason for each?

Table 26. Neighbourhood customs

Customs	Freq	%	Reasons	Freq
Visits	44	39	Strengthen relationship	44
Food exchanging/sharing	23	20	Interaction	20
			Blessing and love	3
Children going out and playing	14	12	Exercise	1
			Strengthen relationship	13
Dywaniya	9	8	Interaction	9
Algergy'an	7	6	Entertainment	7
Parties	6	5	Socializing	6
Help each other	5	4	Strengthen relationship	5
Mosque activity	3	3	Worshipping and education	3
Respect each other	2	2	Comfortable	2
Women gathering	1	1	Gossip	1
Total	114			

One big spacious room is appreciated as a place where family and friends can gather; 39% of the respondents emphasised the importance of **visiting** between neighbours. Or sometimes the women gather weekly to catch up with each other's news, sharing and exchanging food. Therefore such space is essential in every Kuwaiti house to accommodate such social activities.

The **Dywaniya**, on the other hand, is considered the men's part in the Kuwaiti house. It is a gathering place for men only and is totally separated from the rest of the house. It is usually a big room with its own bathroom and small kitchen equipped with coffee/tea, a cooker, and other essentials. To enhance the family's privacy, the **Dywaniya** has its own

entrance, which is oriented toward the main street, isolating it from the family entrance. It provides a space separated from the main part of the house so as not to interrupt the family when the men meet to socialize, to discuss political and social problems, to play traditional games, or to celebrate holidays gathering like Eid and Ramadan.

15) Mention 2 qualities you would like to see in your neighbourhood in the future, give 1 reason for each?

See Table 27 for the responses to this question.

Table 27. Features Kuwaiti people wanted to see in their neighbourhoods

Qualities	Freq	%	Reason	Freq
Good neighbour relations	16	15	Help to area's children in healthy environment	5
			Constant visits and interaction	7
			Respect and privacy	2
			Secure on my family	2
Public park	14	13	For children's play	7
			Socialize	3
			To exercise	1
			Relax	3
Health club	12	11	For children's sports	7
			For women's exercise	1
			For youths	2
			To encourage exercise	1
			Neighbourhood members only	1
Streets	10	9	Wider	6
			Handicapped parking spots	1
			More lighting	2
			More maintenance	1
Educational/ social centres	8	8	For children	4
			For women	1
			All entertainment	2
			Computer learning	1
House design	7	7	Traditional style	1
			Privacy	1
			Future expansion	1
			Space for garden	4
Supermarket	6	6	Regular maintenance	1
			Close by	5

More car parking	4	4	Prevent accidents	1
			Prevent traffic jam	1
			Enough for family gathering	2
Dywaniya	4	4	Discuss neighbourhood issues	1
			Old people gathering	2
			Segregation	1
Mosque	4	4	Activity for children	1
			All attending daily prayers	1
			More activity	1
			Close by	1
Clean	3	3	Healthier	1
			More care for front yards	1
			Around the house	1
Safety	3	3	Slow passing cars	1
			Police cars cruising	1
			Streets security system	1
Small shops	3	3	Easy access	3
Medical centre	2	2	For emergency	2
Baker	2	2	Fresh bread	2
Entertainment complex	2	2	To socialize	2
Café	1	1	Entertainment	1
Schools	1	1	Regular maintenance	1
Uninterrupted side walk	1	1	To encourage walking	1
Cash machine	1	1	Easy access	1
Post office DHL/FEDEX	1	1	Easy access	1
Football stadium	1	1	Encourage sports	1
Total	106			

16) *Would you like to mention any thing about your neighbourhood?*

See Table 28.

Table 28. Additional comments about the neighbourhood

Additional comments
1- Safe area for children to play in the neighbourhood
2- Stop renting in private houses
3- Sidewalk
4- Unified urban features
5- Mini branches for official ministries
6- More car parking
7- Voluntary jobs for young and retired people

8- Emphasise the rights of neighbours
9- Maintenance to utilities periodically
10- Traditional houses with modern and technology
11- Planting front yards
12- Big front yards and streets

One of the most important comments was about the need for a safe area for children to play in the neighbourhood. Respondents ask for this because there is no space in their houses for children to play with safety and close enough so children can be seen and under control. In the areas that are close to Kuwait city like Adaillya and Nuzha public gardens in each block are the solution for the children. But in the new areas such gardens do not exist.

8.5.4 The House

This section of the interviews asked questions about the respondents' houses and their family's activities within them. The first questions concerned the adequacy of the house for the family's needs.

The majority (58%) of the respondents have 7-11 people living in their house, and 40% of them live in a 400-500 sq m house. This does not include the maids; every Kuwaiti middle class family has at least two or three maids between the males and females. Mostly these maids live separately in their own rooms and bathrooms, which means that extra space is needed to accommodate them.

17) What kind of family do you have? A) Nuclear B) Extended

Table 29. Type of family

Family type	Nuclear	Extended
Freq	32	20
%	60	40

18) How many people live in your house? Is the space enough?

Table 30. Number of people living in the house and adequacy of space

People number	Freq	%	Yes/not enough	Freq
3 - 6	12	23	Yes	10
			No	2
7 - 11	31	58	Yes	20
			No	11
12-24	10	19	Yes	5
			No	5
Total	53			

19) What is the size of your dwelling unit? Is it enough?

Table 31. The size of the house

House size	Freq	%	Enough Yes/No	Freq
300 - 399 sq m	7	14	Yes	4
			No	3
400 - 500 sq m	20	40	Yes	10
			No	10
600 - 800 sq m	13	26	Yes	6
			No	7
820 – 2000 sq m	10	20	Yes	9
			No	1
Total	50			

In 1996 the Third Kuwait Master Plan Review published by Kuwait Municipality stated that every Kuwaiti citizen would have no more and no less than 400 sq m piece of land to build his/her house.

20) *What is the type of the dwelling that you live in now?*

Table 32. Types of dwelling

Dwelling type	Apartment within the family house	Entire Floor within the family house.	Annex	Villa
Freq	5	6		28
%	13	15		71

As indicated in the answers to the questions above, the majority of typical Kuwaiti families has between seven and eleven members living as a nuclear family in the same house. As a result dividing the house to accommodate such a large number of family members requires flexibility and a large space, which flats cannot provide. In addition, traditionally when the sons get married they usually stay in the family house until they have their own house and this period may be as long as 7-15 years, which causes several privacy and segregation issues that decrease freedom and well-being. Designers and legislators should place more emphasis on the provision of enough space for Kuwaitis to build their house (villa) with attention to its flexibility and future needs to accommodate the extended family, and not implement policies that make people live in flats located in high rise buildings, as this conflicts with Kuwaitis' traditions and values, and therefore fails.

On the other hand, the reason behind asking questions 20 and 21 was to show legislators and designers that when they can choose their living place, people would rather live in a house or villa, and not a flat as a house could provide for their present and future needs.

21) What kind of dwelling unit do you like to live in future? Give 2 reasons?

Table 33. The kinds of dwellings Kuwaiti people would like to live in

Preferred Dwelling Type	Freq	%	Reason	Freq
Flat	2	1.5	Utilize the space	1
			Save money	1
Flat within the family house	2	1.5	Used to live with family	1
			Like to be close to family	1
Villa	115	97.0	Larger space	25
			Freedom to design and use	24
			Privacy	18
			Independence – different entrances	12
			Flexibility / ability to expand	9
			Garden / Courtyard	8
			Security	5
			Feels more like home / cultural	3
			Other	3
			More parking space	2
			Choose the location	2
			Quiet / less disturbance	2
			More parking space	2
Total	119			

The following section discusses the alterations that people had carried out to their homes. Thirty percent of the respondents have made an alteration to their home (see Table 34). This may be to add room for their children for Islamic reasons, as segregating the boys from the girls when they become adult is essential. Alternatively it may be to add an apartment for their son when he gets married. However, the problem is

that there is no more space on the land to do so. So they must alter the interior of the house, which is an extremely unpleasant and time consuming process for all family members, and compromises their privacy and financial position.

22) *Mention 2 alterations or changes you have made to your current house? Give 1 reason why*

Table 34. Alterations made

Alterations/changes	Freq	%	Reasons	Freq
Added Rooms	26	31	For children	7
			For maids	5
			Added a Dywaniya	5
			Dressing room	3
			Preparation kitchen	2
			Play area	2
			kitchen	2
			Other	2
Renovation / decoration	18	21	Needed remodelling and maintenance	11
			Painting walls	5
			Other	2
Added Apartments	16	19	Son getting married	10
			Help us financially	6
			Increasing family size	1
Enlarge living room	6	7	Accommodate more people	6
Enlarge bedroom	4	5	Their needs have changed	2
			Needed more space	2
Enlarge the parking	3	4	Accommodate more cars	3
Changing exterior cladding	3	4	Old and not up to date	3
Separated the kitchen	2	2	The food smell	2
Added bathroom	2	2	Increasing family members	2
Divided reception area (segregation)	2	2	Privacy	2
Other	3	4		
Total	85			

The fact that the whole house is built of concrete and cement makes it more difficult to redesign functionally and financially. The only other option is to build a room on the roof. However, the roof is mainly used for air conditioning machines and equipment, so the noise would be unbearable to live with. Also the person would be living next to the housekeepers which would interfere with their privacy and the new inhabitant's privacy too.

Others have made alterations just for decoration to increase their self-esteem and enjoyment. So there always seems to be something to add or redesign inside the house, no matter what the family's size. For these reasons it is highly recommended for designers and legislators to design the house with flexibility, leaving space for future changes, as all humans change with time as do their needs, moods, and style.

The next two questions explored the advantages and disadvantages of the traditional courtyard house.

23) Please give 2 advantages in the design for traditional house, give 1 reason for each?

Table 35. Advantages of traditional Kuwaiti houses

Advantages	Freq	%	Reasons	Freq
Courtyard	26	31	Open shaded outdoor space for outdoor activities	19
			Place for children to play	10
			Privacy	7
			Encourages interaction	3
			Ease of circulation	1
It fits exactly for our needs and culture	15	18	Provide privacy	13
			Segregation/Freedom	3
Simplicity	13	15	Easy to use	4

			Similar houses and no competition	3
			Easy to build	3
			Not expensive	3
			Simple furniture	1
Large Space	11	13	Fulfills more needs	7
			Reliable	4
			Allows for future expansion	3
			You can raise cows, sheep and chicken	1
			Extended family live together	1
			Cooler	1
Ventilation & climate control	5	6	Fresh air	5
Shaded outdoor corridors	3	4	Keeps the sun out of rooms used for various activities	2
Low cost	3	4	Affordable	3
Fewer rooms	2	2	Encourages interaction	2
Design	2	2	No waste areas	2
Total	80			

24) Please give 2 disadvantages in the design for traditional house, give 1 reason for each?

Table 36. Disadvantages of traditional houses

Disadvantages	Freq	%	Reasons	Freq
Courtyard	20	23	Bring dust and heat to the house	13
			Waste area	8
Bad Design	14	16	No decorations	4
			No colours	2
			Boring exterior	4
			Old fashioned / unmodern	1
			Odd shape	1
			Layout	1
Bathrooms	11	12	Lack of privacy	8
			Away from the house	1
Small size	10	11	Does not fulfil needs	7
			Few storeys	3
			Few rooms	1
Bad insulation	7	8	Noise penetrates	3
			Heat	4
Lack of high tech	5	6	Kitchen, air conditioning, etc.	3

amenities			Bad lighting	2
Unsafe	4	4	Weak locks on doors & windows	1
			Fire hazards	3
			Water supply	1
Small windows	3	3	Limited view, light, ventilation	3
Small rooms	3	3	Does not fit	3
Small kitchen	2	2	Does not fulfil needs	2
Plumbing	2	2	Bad – no heating and leakage	2
Doors and windows	2	2	Not well insulated	1
			Bad design	1
Other	5	6		
Total	88			

In general most of the responses agreed that the traditional house is preferable to live in but needs some modifications. Traditional houses have succeeded in Kuwait for several reasons: the courtyard is a safe place for children to play; it gives privacy for women to wear comfortable clothes and do outdoor activities without being exposed to strangers; it provides fresh air, the courtyard is considered the lungs of the house by exchanging the air.

Traditional houses fulfil the need that was most often mentioned before, the need for space for future changes and flexibility. On top of all of the above, the traditional house respects Kuwaiti culture and weather. On the other hand, Table 36 indicates what aspects of the traditional house people do not like and why they prefer modern houses. The majority of their concerns were technical, like the weather, heat and noise insulation, plumbing, the size of the windows, most of which could be solved by technology.

It is obvious from the interpretation of question 28 that people's main concern was not the function of the house as much as its modern materialistic aspects and subjectivities, as the traditional house lacks lavish decoration and is simpler compared to the modern house. In general people judged the traditional house as conservative and “old fashioned”. This is a totally understandable point; and there is nothing wrong with it, as aesthetics, self-esteem and self-actualization needs are important in house design (see chapter 4).

The following questions asked about the advantages and disadvantages of modern houses. The results are shown in Table 37 and Table 38, respectively.

25) Please give 2 advantages in the design for the modern houses, give 1 reason for each

Table 37. Advantages of modern houses

Advantages	Freq	%	Reasons	Freq
Design	35	41	Well designed and space is utilized	13
			Unique design - different	12
			Nice exterior design and colours	4
			Attention to interior design	5
			Modern / reflects advancement	2
			Open which makes them bigger	2
			Encourages family gatherings	1
			Employment of professional designers	2
			Durable materials	3
Use of Technology	18	21	Security, shade, lighting, etc.	8
			Air conditioning	2
			Employment of professional designers	1
			Comfortable	2
			More entertainment facilities	1
			Sound/heat insulation	2
			Safety measurements	2
			Environmentally friendly materials	2

Large / private rooms	9	10	Fulfils needs	8
Open Plan	5	6	Spacious feeling	4
			Easy circulation	1
			Privacy	3
Basement	4	5	Family gatherings and play area for children	4
Private bathrooms	4	5	Privacy & comfort	4
Large windows	3	4	Allows the sun to enter	2
			Add spaciousness	1
Ability to expand	3	4	For rental & married sons	3
Preparation kitchen inside house	2	2	Privacy	2
			Comfortable	1
Other	2	2		
Total	85			

26) Please give 2 disadvantages in the design for the modern house, give 1 reason for each

Table 38. Disadvantages of modern houses

Disadvantages	Freq	%	Reasons	Freq
Design	16	18	Complicated & difficult to build	6
			Expensive	5
			Waste areas & corners	6
			Too simple – empty	1
			Lack of visual control	1
			Layout	2
Small plots	13	15	Tight space and no place for children to play	8
			No enough parking	3
			A lot of activities and small plot	1
Open plan	11	13	Lack of privacy	9
			Rarely used spaces	2
The use of enduring materials	7	8	Requires a lot of maintenance	7
Adjacency with neighbours	7	8	No privacy	5
			Crowded	3
Many small rooms	6	7	Can't furnish them well	6
Does not fit with our culture	5	6	Does not provide privacy	5
Expensive	5	6	High building cost	3
			Too lavish	1
			Many bathrooms	1

Private rooms	4	5	Few interaction between family members	4
Vertical	4	5	Difficult circulation	2
			Few interaction between members	2
Colours	3	3	Some houses choose dark and sometimes bright colours	3
Lack of identity	3	3	Some people mix styles	3
Large windows	3	3	Too much heat	3
Large Spaces	2	2	Takes time to clean and maintain	1
			Waste areas	2
Other	3	3		
Total	92			

When people said modern design they generally meant western design. That is, design where there is no segregation between men and women, no courtyard, no *Dywaniya*, and mostly open-plan design. In question 29, Kuwaitis were interested in modern houses because they give them their identity. Again, this is an expression of the need for a sense of identity and aesthetic values, as 41% referred to design in all its aspects, such as nice and different exterior, better interior design and attention paid to colour and the house appearance in general.

In contrast, only 3–5% of the responses to both questions 29 and 30 were aware of functionality and their own needs like privacy, circulation, flexibility for future needs and others. It is clear that the responses are driven more by the look not the function in modern houses. This is manifested in there being no longer a safe place for children to play such as the courtyard provided, the open-plan layout is limiting privacy, as is the closeness between neighbours. In addition, the small land size has led people to use every inch of the land, which resulted in there being many rooms without use, and no

space being left for outdoor activities or future use. In turn, there are a lot of wasted interior areas which make the house large inside and hard to take care of and maintain.

Because they are afraid of being seen as old fashioned most Kuwaiti people tend to build huge houses without real reasons, just to be modern. So they end up with houses with no identity, as a couple complained to Susanka (1998):

We just built it. We spent over \$500,000 and we hate it. It is just not us at all. We know what we have to start over. All we've got is square footage with no soul.

Even more important than size, is how the organization of the living space influences each individual family member as well as their interaction as a whole. Studies indicate that there is a strong relationship between designs that promote communication and more frequent socialization between family members (Newmark & Thompson, 1977). For example, rooms designed around a central foyer emphasise interaction, whereas rooms arranged side by side along a hallway promote separateness (Wedin & Nygren, 1975).

27) *Are you satisfied with your house's design? Give 2 reasons*

In general, most Kuwaitis are not satisfied with their house design (see Table 39), whether they are living in a private house or a governmental house.

Table 39. Satisfaction with house design

Yes/No	Freq	%	Reasons	Freq
No	30	58	Unfit design and distribution of space	15
			Small / tight	14
			Did not involve in design / governmental house	5

			Lack of privacy / noisy	4
			Did not plan for future expansion	3
			Other	3
Yes	22	42	Fulfils our needs	14
			Nice design / utilized space / allows for expansion	7
			Used the best materials / structure	3
			Other	3
			Used to it	2
			It has old fashioned feel to it	2
Total	52			

The reason behind this is that people building their own private house are mostly building it not for themselves, but to show others how successful or tasteful they are. They just copy their house design from other cultures without listening to their own basic needs. Alternatively, in governmental public houses, people are not satisfied simply because they were not involved in the design process. Therefore, they end up with houses that have no identity, aesthetic merit or function, as they are designed with no regard to Kuwaiti culture.

The findings of a study done by Al-Shatti (1989) indicated that incompatibility between the original design and actual dweller's needs means people are continually having to change and redesign their houses. The government built these contemporary houses when it started an ambitious program of public housing in 1945, attempting to copy western design. However, the people living in them found it impossible to function comfortably in these foreign spaces, and so are continually remodelling them (Al-Shatti, 1989). As question 39 shows, 49% of respondents wanted to design their house or at least to be involved in the design process. Houses should be built to reflect people's opinions, taste, and needs. These elements should be addressed by Kuwaiti designers and then be authorized by embedding them in the legislation and building code.

28) *In terms of lifestyle, mention 3 activities you most like to do in the house, give 2 reasons for each?*

It is clear that Kuwaitis are now more aware of the rest of the world and its activities, and most of the traditional activities and games are less practised within the house due to the introduction of technology and modernism (see Table 40). From this question legislators can see that despite the harsh weather people tend to do outdoor activities even though the majority would rather not be outside for the same reason.

Table 40. Activities that people want to do in their houses

Activities	Freq	%	Reasons	Freq
Watch TV	24	17	Relaxation	11
			Entertainment	22
			Education	4
			Spend time with family	8
Family & friends gatherings	16	11	Socializing and interaction with family	15
			Entertainment	7
Cooking	14	10	Entertaining	8
			Providing healthy food	8
			Sharing with family / neighbours	5
			Less expensive	2
Exercise / play	13	9	Entertainment	11
			Healthy	10
			Can be done any time	1
			Strengthen family interaction	1
Reading	12	8	Entertaining	8
			Education	9
Gardening	11	8	Entertainment	10
			Provide beautiful place for family / house	7
Maintenance work / arranging stuff	10	7	Entertainment	7
			Fixing / arranging various things	7
Decoration	6	4	Break the routine	4
			Improvement	4
Swimming	5	3	Entertainment	5
			Exercise	4
Teach / Play	5	3	Spend good time with my children	3

with Children			Spend time with children	5
Painting	5	3	Entertainment	5
			Making money	2
			Spend time with family	1
Dining	4	3	Good food	4
			Spend time with family	1
Worshipping / reciting Quran	4	3	Blessing / good deeds	3
			education	1
			Teach my children	2
Barbeque / sit in garden	4	3	Relax	4
			Gardening	4
Sleeping	2	1	Relaxing	2
Use computer	2	1	Connect with the world, education	2
			Spend time with children	1
Other	6	4		
Total	143			

It is important for designers to designate interior as well as exterior shaded spaces so families could practise these activities. And more importantly, it is necessary to classify these spaces according to the activity that takes place in them, such as a quiet space for worshipping, a semi-shaded area for gardening, and internet and satellite utilities for the entertainment space, and so on.

29) Describe the way you like to have your meal, give 1 reason?

The main reason behind asking this question was that the researcher observed that the phenomenon of eating on the floor is still alive in Kuwaiti culture, and there are some people who still enjoying eating on the floor, as the responses in question 31 showed (see Table 41). In fact, most of the respondents have a dining table but they use it only on special occasions or if they have guests, to show off their modernity. It is crucial for designers to leave space for such an eating tradition as it is considered an Islamic tradition and people are still practising it. It would be even better to promote it by giving more variety of design concepts for eating on the floor and using a modern furniture layout to make it more comfortable and appealing.

Table 41. How people like to have their meals

The way	Freq	%	Reasons	Freq
On a table	35	73	Comfortable	21
			Encourages interaction	7
			Used to it	3
			Accommodates the whole family	3
			Other	3
On the floor	13	27	Comfortable	7
			Traditional	3
			Can accommodate more people	2
			Do not have dining table	2
			Simplicity	1
Total	48			

30) Which space in your house is allocated for family and guests gatherings?

Table 42. Spaces for gatherings

Family Space	Freq	%
Living Room	50	89
Garden	3	5
Other	3	5
Guests		
Guest/reception room	13	76
Dywaniya	2	12
Basement	2	12
Total	73	

31) Mention 2 pieces of furniture you would most like in the house, give 1 reason?

Table 43. Furniture requirements

Furniture	Freq	%	Reasons	Freq
Bed	30	30	Comfortable	21
			Large	4
			Most used	6

			Good design	3
			Private	1
Living room sofa	29	29	Comfortable	16
			Large / accommodate many people	6
			Watch TV	5
			Encourage us to gather	2
			Can sleep on it	4
			good design	5
Dining table	8	8	For dining and various activities	5
			Encourage chatting	2
			Good design	2
Desk	7	7	Spend a lot of time on it	2
			Use computer	1
			Reading & writing	3
			Comfortable	1
Armchair	6	6	Comfortable	6
			Has massage feature	1
			Modern design	1
Reception room	4	4	The most elegant pieces	3
			Informal	1
Floor sitting mattress	4	4	Many uses	1
			Comfortable	2
			Simple	1
Mirrors	2	2	Makes the space look bigger	1
			Design	1
Other Sofa	2	2	Comfortable	1
Floor rug	2	2	Comfortable	2
Other	6	6		
Total	100			

The bed was important to 30% of respondents, and in question 35 the bedroom took 20% of the interviewees' responses as one of their most essential five spaces in the house.

This percentage shows how people are not truly following their sense of needs as they need the bed and a bedroom; yet they pay little attention to its privacy, location, or its fundamentals of design like texture, form and shape, colour, lighting, perfume, wardrobe, and a private bathroom. And as we will see in question 35, people are

concerned more about the reception room than the kitchen, as that is the place that addresses their self esteem and their status in terms of design and fashion taste. (There will be more discussion about the bedroom and reception room later in this chapter in the classification of responses.)

What this study is trying to emphasise here is that people should follow their sense in house design, so that their house represents who they are, and they should devote their time, money and effort to designing their house for their own comfort, well-being and happiness, rather than spending them on useless luxury items. It seems that people in Kuwait continue to consider their merely materialistic needs, not the needs of the inner self, and do not appreciate that home is the natural space to nurture these needs. The legislators' duty is to explain the main aspects that make houses into homes and places for well-being by setting priorities for the spaces within homes.

32) Are you satisfied with your furniture layout in your house? Would you like to improve it or change it? Why, give 2 reasons?

It was found that 32% are happy with their house design and satisfied, but they still want to change it even though they may have just renovated it to fit their modern lifestyle (see Table 44). This contradiction is a clear sign that their satisfaction is limited only because it fits their lifestyle and it is new but obviously they are not happy with it, as 26% of their furniture is not used.

Table 44. Satisfaction with furniture layout

Yes/No	Freq	%	Reasons	Freq	%	Changing yes/No	Freq	%
Yes	26	51	New, just renovated	14	32	Yes	24	80
			Fit lifestyle	14	32			

			Can accommodate many uses	4	9			
			I bought it according to needs	4	9			
			Comfortable	4	9			
			Durable	2	4			
			Other	2	4			
No	25	49	Not used furniture	12	26	No	6	20
			Tight arrangement	10	21			
			Bad design	8	17			
			Old	5	10			
			Do not utilize the space well	3	6			
			Uncomfortable	3	6			
			Endurable	3	6			
Total	51							

Many Kuwaiti people spend a tremendous amount of money, sometimes even getting loans as big as £100,000 from the bank to furnish their house, just to be on the edge and stylish, regardless of their lack of space. They stuff these rooms with furniture which means they do not utilize the space well, making it uncomfortable and awkward to live in. Legislators should set standard yet flexible room size according to its function, so the furniture layout would go in harmony with the room’s shape and size in order to promote the inhabitants’ satisfaction and fulfil their needs.

On the other hand, people should be aware of the furniture layout as studies observing office interaction showed that placing filing cabinets as barriers between groups or sub-groups greatly reduced interaction and communication. However, arranging the barriers to form sub-groups actually increased the occupants’ communication with each other. It seemed to draw them into a cohesive unit (Gullahorn, 1952). It is not good to have a house designed in such a way that it keeps the family apart, or forces its inhabitants to

furnish it in a way that limits family interaction. House designers and legislators should be aware of the main task of the house, that is to bring its inhabitants together, and to protect them. These elements should be addressed inside and out by legislators and Kuwait Municipality's designers, to gain full satisfaction from their residences.

33) Please make a list of the 5 most essential spaces you like to have in your house?

Table 45. Essential spaces

Space name priority	Freq	%
Bedroom	52	20
Living room	51	20
Reception room	29	11
Kitchen	28	11
Bathroom	25	10
Dining	13	5
Maid's room	10	4
Dywaniya	9	4
Children's room	7	3
Office	6	1
Sports room / pool	4	1
Basement	4	1
Play space	3	1
Library	3	1
Dressing room	3	1
Storage	3	1
Yard	3	1
Preparation kitchen	1	1
Total	254	

34) Mention 3 qualities that you aren't satisfied with in your house, give 1 reason?

Table 46. Reasons for dissatisfaction about the house

Qualities	Freq	%	Reasons	Freq
Bad design	25	23.0	Old	2
			A lot of waste area	8

			Space layout	5
			Exterior / all neighbours have same façade	5
			Other	6
Small rooms	10	9.0	Do not accommodate all needs	8
Few rooms	8	7.0	Does not fulfil all needs	4
			Other	2
			Storage	2
Yard	7	6.0	Small / Space for children to play	2
			Not used	2
Narrow street / front yard	7	6.0	Narrow for cars to pass	1
			Few parking	6
Bathrooms	7	6.0	Many & required maintenance	1
			Few – need more	5
			Bad design	1
Kitchen	6	5.0	Location / transfer smells	4
			No preparation kitchen	1
			Small	1
Plumbing	5	4.5	Cheap / old durable	5
Small garden	5	4.5	Not enough to use	1
			No space for children to play	4
Stairs	5	4.5	Open to reception and lacks privacy	2
			Consumes space	2
			Unsuitable design	1
Basement	4	3.5	Not used at all	2
			Basement garden does not get sun	2
Adjacency with neighbours	3	3.0	Noisy and not private	3
Open plan	3	3.0	Lack of privacy	3
Cheap materials	2	2.0	Endurable	2
Large Windows	2	2.0	Heat	2
Inability for future expansion	2	2.0	Design does not allow it	2
Annexe	2	2.0	Too large / not used	2
Lighting	2	2.0	Unsuitable distribution	2
Many corridors / doors	2	2.0	Dark	1
			Difficult to arrange furniture	1
Small windows	2	2.0	Bad ventilation and less sunlight	2
Bad air condition	2	2.0	No central AC	2
Many unused furniture	1	09	Cluttered the space and waste	1
Total	112			

36) Mention 2 good spaces for children to play in your house?

Table 47. Play spaces for children

Spaces	Freq	%
Living room	30	26
Courtyard	29	25
Garden	24	21
Basement	14	12
Children living room	6	5
Their bedroom	6	5
Swimming pool area	3	2.6
Play room	3	2.6
Total	115	

Question 36 indicates clearly that a play area is essential (see Table 47). It does not matter where the space is located as long it is safe and can be supervised. The courtyard was the best place for children to play and be supervised, but this is no longer true as it has been removed because of “modernism”. Because of modern tight/large houses, the only place for children to play is the street, which is extremely hazardous in Kuwait, as a study showed that there are 50 car accidents every day. Most Kuwaiti families use the living room for children’s play; others use the garden if they have one, and others use the basement, but are unhappy about doing so as it is an unhealthy space for children to play.

If there is an outdoor, shaded, safe, supervised space close to the house for children to play, it will not be necessary for a family to trap their children inside the house. The legislators in Kuwait need to focus on providing a children’s play area in every neighbourhood. It is a place where children’s personality and perception develops. Parents should take this matter seriously, like the parents in Amsterdam, who fought for playgrounds at the very time that the icon of playground architects, Aldo Van Eyck, was

establishing his concept of the importance of playground. They wrote hundreds of letters to the Department of Public Works between 1947–1958:

The newspaper often carries articles on the high percentage of traffic accidents involving toddlers. This will not improve if no play areas are created for our children. On behalf of many parents, we appeal urgently to you not to lay this letter down without giving it your attention. Let our children have a playground. They need it very bad! (Novak, Wilken & Lefaivre, 2002, quoting Schmitz, 2002)

37) Which house style do you like, please give 1 reason why?

The responses to this question can be seen in Table 48. Because of the technology and comfort that the modern house can provide to its inhabitants, the majority of the respondents indicated that it was their preferred design. Yet they need the privacy, courtyard, and the advantages of using every aspect of the house's space in an elegant and practical way that the traditional house offers. On the other hand, there were other respondents who wanted the advantages of both the modern house and the traditional house. The researcher therefore believes that designers and legislators should embed these preferences in the improved Kuwaiti housing legislation.

Table 48. Preferred style of house

House type	Freq	%	Reasons	Freq
Modern	25	41	Good look, architectural fanatic and trendy	9
			Technology leads to less maintenance	4
			Functional, handicap exercisable	5
			It uses every space	3
			Small size easy to clean, emptiness	2
			Basement	2

Traditional	19	31	Courtyard connect with nature	3
			Multi-use space, no space wasting	2
			Privacy	2
			You can see all rooms from courtyard, control	1
			I want tradition but I have to follow the trends	1
Modern/tradition	13	21	Simplicity/practicality and luxury/privacy needs	6
			Privacy of the tradition, lavishness of modern	3
			New design ideas and style	2
			Use technology to cover courtyard	1
			To preserve our identity in modern way	1
Spanish	3	5	Close to traditional Kuwaiti style	2
			Beautiful	1
Total	60			60

38) Would you like to design your own house, or ask others to do it? Please give 2 reasons why?

Table 49. Would you like to design your own house?

	Freq	%	Reasons	Freq
Design by you	29	49	Understand my needs better	19
			To have it according to our style	10
			Utilizing each space	2
			So it will not look like government house	1
			I can save money	1
Total				34
Design by others	Freq	%	Reason	Freq
	30	51	More professional	16
			Other's design but under my guide	13
			Creativity of interior design	9
			I am not aware of buildings techniques	7
			To get the latest in design ideas and facility	7
			To avoid the current house's mistakes	6
			It will look better	3
Total				61

The next question explored the respondents' attitudes to the use of technology in their homes (see Table 50).

39) Do you like to use technology in your house, give two examples and the reason for each example?

Table 50. Technology in the home

Yes/No	Freq	Example	Freq		Reasons	Freq
Yes	47	Computers	29	27.0	Worldwide connection, education	18
					I'll use it for the Library's index	2
					To do business from home	2
		Telecommunication	13	12.0	Prevent direct contact	4
					Increase the interaction	4
					Easier to communicate	6
		TV & DVD, sound system, satellite	10	9.0	Entertainment, playing music	9
		Cooking facilities	9	8.0	Preparing big meals	4
					Fast tool for fast food	6
					Microwave	4
		Security system	9	8.0	Safety	7
					To check on house on holiday	2
		Home theatre	8	7.0	Entertainment	5
					Family privacy, no need to go out socializing with family	6
		Elevator	6	5.5	Faster and easy axis	3
					Easier to use for elderly	4
		Cleaning tools	5	4.6	To ease housework	5
		Window shutters	4	3.7	Heat protection	3
					Safety	3
		Lighting system	3	2.7	Beautiful, relaxing, safe, energy	4
		Plumbing/electrical	3	2.7	Less maintenance	3
		Telephone/fax	2	1.8	To do business from my house	2
		Air conditioning	2	1.8	To control the heat	2
		Play station	1	0.9	Recreation	1
		Security system and cameras	1	0.9	Surveillance on children	1
					Exterior intercom	1
		Laundry room	1	0.9	Faster, sufficient	1
		Gym equipment	1	0.9	Good health	1
Total			109	96		
No	4		4		Required constant	2

					maintenance	
					Complicated	2
Total			4	4		116

Computer and telecommunications and entertainment equipment are the most needed in this schedule. This is an indication of Kuwaiti people's desire for modernism, the latest lifestyle and home fashion. The reason that Kuwaitis need computers in their houses is mainly for education and to be aware of what is going on in the world, and to have access to the latest items in clothing, entertainment, and other products. As technology has become cheaper and available to everyone, it has become the tool for interaction and communication within the house, and this has eliminated people's interaction inside the house, as each family member becomes isolated from the others because they have a TV, DVD and satellite or cable within their own room. People are calling each other for lunch or dinner or calling the housekeepers by intercom. Mothers tell the chef about the day's menus by intercom. Moreover, the food is sent by dumb waiter not by the chef himself, as he will interfere with women's privacy. Technology is being used for everything.

Some of these needs could be classified under safety needs as security cameras and shutters have become a priority in Kuwaitis' lives, especially in the areas far from Kuwait city. In addition, aesthetic needs are associated with lighting system design for a more relaxed and soothing effect.

Self-actualization needs have flourished, as having the money and position to be able to provide these things is an indication of success and achievement. Technology should

therefore play a big role in Kuwaiti legislation as it is widely used in every house, even in middle class families.

40) Mention 2 building materials you like to see used in your house, give 2 reasons why?

Table 51. Desirable building materials

Materials	Freq	%	Reasons	Freq
Marble	26	23.0	Easy to clean	7
			Diversity of colour	2
			It could be designed in different shape	1
			Luxury/beauty	8
			It lasts longer	8
Heat insulation	15	13.0	Cool off the space	11
			Save energy	4
Ceramic/mosaic	10	9.0	Heavy duty	5
			Verity	4
			Lavish and beauty	2
Brick(limestone)	9	8.0	Strong	2
			Stand Kuwait harsh weather	9
			It comes in many shapes	1
Wood	9	8.0	Good looking	7
			Western look	1
			Connecting with nature	2
Sound insulation	7	6.0	Privacy	3
			Quietness	6
Glass	6	5.0	Spaciousness, natural light	3
Gypsum	4	3.5	Cooler	4
Sigma paint	4	3.5	Good looking	4
Natural materials	4	3.5	Healthy living, and environment	3
			It protects the magnetic power inside the body	1
Stone	3	2.7	Last long time	1
			Natural material	2
Aluminium	3	2.7	Easy to maintain	3
Decorative metal	2	1.8	Beautiful	2
Paint	3	2.7	Easy to change	2
			Multi type and colour	1
Stain glass	2	1.8	Colourful lighting	2
			It survives Kuwait harsh weather	2
Advanced electrical	2	1.8	The most important thing in the house	2

/plumbing material				
Stainless steel	1	0.9	For the kitchen it lasts longer Translucence	1 3
Alka bound	1	0.9	Heavy duty Lasts for long time	1 1
Big glazed windows	1	0.9	To get the light not the heat	1
Concrete	1	0.9	Strong	1
Total	113			122

41) Mention 2 building materials you don't like to see used in the house, give 2 reasons

Table 52. Undesirable building materials

Materials	Freq	%	Reasons	Freq
Concrete	13	16.0	Difficult for renovation	10
			It makes the space hot	2
			No need, we are desert country	1
Limestone	13	16.0	Boring, most of Kuwaiti used it for years	10
			Ugly old fashion	3
Marble	8	10.0	It does not fit Kuwait environment	3
			Crack if it is cheap one	1
			Expensive	4
Paint	8	10.0	Chemical	1
			A lot of maintenance, it change colour with time	7
Glass /glass blocks	6	7.0	Danger for children	3
			Heat	2
			Ugly	1
Ceramic for floor	5	6.0	Slippery	3
			Not heavy duty	1
			Squares	1
Plastic	4	5.0	Doesn't stand Kuwait weather	1
			Unhealthy	1
			Cheap, ugly looking	2
Metal	4	5.0	Rusting	4
Sigma painting	3	3.7	Not good look	1
			Most of Kuwaitis using it	2
Big windows	3	3.7	No privacy	3
Synthetic material	2	2.5	It affects human well-being	2
Wallpaper	2	2.5	Doesn't stand Kuwait weather	2
Mosaic	2	2.5	Difficult to clean	1
			Too much decoration	1
Dark colour	1	1.2	It gets dirty very fast because of the weather	1
Steel	1	1.2	Reflection	1

Porcelain	1	1.2	Too fake	1
Gypsum boards	1	1.2	Not heavy duty	1
Mirror	1	1.2	A lot of reflections	1
Carpet	1	1.2	Difficult to clean	1
Strong lighting	1	1.2	Glare	1
Copper	1	1.2	Not good for Kuwait weather	1
Total	81			105

Riggs (1999) quoted Buckminster Fuller saying,

Designers should think outside the box; to think of the interior systematically instead of as a random arbitrary compilation of products and materials. If the invention, the materials, the object doesn't work, then it isn't beautiful, and if it isn't beautiful, then it doesn't work! (Riggs, 1999, p.vii)

As we can observe from Table 51, most of the respondents chose marble/mosaic, wood, and heat insulation as the most desirable materials for their house. Kuwaitis use marble either in the interior or on the exterior of the house simply because it looks luxurious, regardless of its expensive price and its poor safety. Although it was widely used in Europe during the Baroque and Rococo periods, especially the black-and-white square patterns, marble or mosaic is not the ideal material to use for house flooring, as it is slippery. Marble is used principally for its aesthetic appeal and also for its durability, as it is easy to clean, especially in a desert country like Kuwait; where dust storms blow dust and sand almost every week during the summer. On the other hand, people also use marble and mosaic inside their bedrooms and living rooms without treating its surface, as if they do the marble loses its brightness; in fact, they polish it more to increase its

shininess. Hundreds of injuries occur inside Kuwaiti houses because of the slippery surface of the marble.

The other required material is heat insulation, which plays a big role in houses due to the hot Kuwaiti weather. In fact, a house is not considered “home” if it does not have a sense of coolness and tranquility, as the heat increases anxiety and irritation. Respondents mentioned heat insulation, as some of the new houses do not have it; either because they were not aware of it at the time when their house was being built, or because it is too expensive. In either case, legislators should consider heat insulation as a principal necessary building material for Kuwaiti houses.

Wood was another material that respondents indicated a desire for, particularly wood flooring or parquet, which is a new material in Kuwait, and not affordable for everyone. It is considered “western” and an indication of style and the latest home fashion. But people with wood flooring are facing a lot of trouble as the heat of Kuwait either makes it dull so it requires constant maintenance to keep it in good shape, or earthworms take this wood as a good meal, unless it has been treated to prevent this. Again, if the material does not work it is not beautiful.

In general it seems people do not like to have concrete and limestone in their houses. According to Riggs (1999):

Concrete walls are frequently used in commercial and educational interiors. There are several problems with concrete walls: it has extremely poor insulating qualities if used on an exterior wall; if used on an outside wall and moisture is

present, efflorescence will form; and it has a fairly rough surface that is difficult to paint, although coverage may be accomplished by using specially formulated paint and a long-nap roller. (Riggs, 1999, p.92)

If the concrete wall or concrete block is used in the USA and Europe in commercial and educational buildings for exterior use, why are Kuwaitis using concrete inside their homes? Obviously it is a matter of lack of knowledge and common sense. Besides the problems just mentioned, concrete is good heat conserver, which makes Kuwaiti houses extremely hot during the summer.

On the other hand, despite its durability and functionality in Kuwait's harsh weather; limestone is not considered a desirable material by the majority of the respondents. This is because it has been used widely, and people tend to want to be different from each other, as part of the human need for aesthetics and self-esteem. The widespread use of limestone makes Kuwaiti houses look identical with no individuality. Moreover, it has been used for a long time, generation after generation, without any improvement to its look except for its colour and although people may put it together to make unique motifs, it is still limestone.

42) *How many storeys would you like to have in your house, give 2 reasons?*

Table 53. Number of storeys

Storey number	Freq	%	Reasons	Freq
3	21	35	More space for future needs	10
			Use the third floor for renting	3
			Use the third floor for maids and laundry	2
			Bigger is better	1

			To fulfil family needs	4
			To have space for my sons when get married	4
			So the family stay long time together comfortably	3
			No more disruptive construction	1
			To have more space for receptions and play space	3
2	22	37	Ground floor/reception, first floor/sleeping	12
			High building for privacy	1
			Enough to start the family	11
			Big rooms	1
			Easy to build and furnish	3
			It fits the need and daily activities	3
			Easy to maintain and control	3
			Good looking	3
			So I can see my family and interact with them	3
1-1&1/2	9	15	I will use every space	6
			Big Dywaniya	1
			Easy to control	6
			Connect all rooms with the garden like traditional house	1
2 and basement	8	13	Basement for special gathering	5
			Fits my needs	3
			Cheaper	1
Total	60			94

43) Mention 3 features you most like to have in the interior of your house, and give 1 reason for each?

Table 54. Desirable interior features

Features	Freq	%	Reasons	Freq
Interior garden	32	24	Add life and colour	13
			Fresh air	3
			Beauty	8
			Family interaction	2
			Relaxation	7
			Alternatively with the exterior garden	3
			Gardening in privacy	2
Room colour type	20	15	One colour for all room	1
			Multi colour room for dynamic look and life	15
			Natural colour for soothing hot weather	4
Wall covering	19	14	Drawing on wall, beauty, and art	10
			Upholstery fabric covering for luxury, acoustics, cosiness	6

			Wallpaper, modern material/ attractive	2
			Beauty	2
			Spaciousness	9
			To avoid chandelier being hit by kid's ball	1
			Makes rooms bigger	3
			To have more decoration	1
Fountain/water feature	15	11	Beauty	3
			Liveliness	4
			Nice sound	2
			Cool off the space	3
			Relaxing	3
Chandeliers and lighting system	10	8	Good lighting	6
			Comfort the eyes	1
			Luxury	1
			Enlarge the space	1
Hanging art/sculpture work	5	4	To break the plainness colour for the wall	2
			To add artistic touch to the space	1
			Beauty	1
			Culture	1
Bedroom	5	4	Big, to do all activities in it and has walk-in closet	2
Big windows	5	4	Sunlight	5
Furniture	3	2	Small size, easy to move it around	2
			Antique, it has identity and history	1
Skylight	3	2	Natural light	3
Stained glass	2	1.5	Beauty	1
			Coloured lighting	2
Gym/swimming pool	2	1.5	Exercising for good health	2
			Practising sport in privacy	1
Monitoring camera	2	1.5	Easy to control the house	2
Closed plan	1	.7	Privacy	1
			Freedom	1
Courtyard	1	.7	Safe place for children to play	1
Good stair design	1	.7	Not wasting space	1
Marble flooring	1	.7	Strong	1
Rugs	1	.7	Enrich the space	1
			Segregated, for privacy and freedom	3
Big bathroom	1	.7	To have full facility, sauna, bathtub, make-up	1
Storage space	1	.7	To put unused stuff like picnic tents	
Big living room	1	.7	Family gatherings	1
Big main entrance	1	.7	Welcoming gesture	1
Carpet	1	.7	Safe for the children	1
Mirror	1	.7	It makes the space bigger and lighter	1

Total	134			148
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Water and greenery is essential for Kuwaitis in their daily life as Muslims as part of their aesthetic needs. The Quran revealed thousands of years ago that water and greenery are two main things associated with paradise; as at that time Arabs lived in the desert where water and greenery were vital factors for their lives. In fact, geographically Kuwait is considered as part of where Arabs used to live in the Arabian Peninsula. It is therefore not surprising that most of the respondents required greenery and water in either the interior or the exterior of the house, as they consider these items to represent life and tranquility.

In the past the roof of the house was used as a garden, as well as the courtyard, and it has been scientifically proved that this reduces the heat inside the house (Organization of Islamic Capitals & Cities, 1991). Most traditional courtyard houses had such water and greenery in each courtyard; there would be a well which was used for drinking and cleaning, and greenery in the form of palm trees or other essential vegetation for daily consumption. Because of the lack of greenery outside people felt the need to have it inside their house as an alternative; especially for women who could do their gardening in privacy inside their houses. These days, the respondents' need for garden and water features, whether a fountain or waterfall, indicates its continuing importance for people in their daily life as it provides better opportunities for family interaction, serenity, and outdoor activities, as well as barbeques and socialization with family members, friends and neighbours.

44) *Would you like to have courtyard at your house, give 2 reasons?*

Table 55. Would you like a courtyard?

Yes/No	Freq	%	Reasons	Freq
Yes	51	85	Play area for children	36
			Connect with nature	15
			Gardening	14
			Privacy	12
			Family gathering	11
			Parties and special occasions	8
			Fresh air	6
			Barbequing	5
			Space for future expansion	2
			Safety	2
			Relaxation	2
			Swimming pool, so women swim in privacy	2
			Ventilation	1
			Dry out laundry	1
No	9	15	Needs a lot of maintenance	4
			Wasting space, it should be used for more rooms	3
			Difficult to move from one space to another	2
Total	60			126

The courtyard has special appreciation in Kuwaiti life. It has deep philosophical meaning that made it a must in earlier days, especially before the discovery of oil in Kuwait in 1945. There used to be more than one courtyard in some houses, but generally they would have one dominant courtyard called a family courtyard. Islamic customs encourage separation of the family in its own indoor protected space, and the family courtyard fulfils this need (Al-duaij, 1994). Besides being an area for entertainment and socializing between family members and gardening, the courtyard was used for praying and reciting the Quran, and was a link to sunlight and fresh air. During the spring many birds migrate to Kuwait, which encouraged Kuwaiti people to have feeders to attract birds into the courtyard for children to watch (Al-Hajy, 1997). It

was also the safest place for the youngsters to play, as the majority of respondents mentioned.

Each area of the courtyard is utilized. In the morning the family eats breakfast together in the shaded area. This provides a daily meeting place where family issues are discussed. The time after dinner is set aside for the adults to discuss the day’s events and private family matters. The courtyard is a “spa” inside each Kuwaiti house for peace of mind and connection with the heart and soul. (There is more discussion about the courtyard in Chapter 2.)

46) *In which location you like to have a family room, give 2 reasons?*

Table 56. Desired location of a family room

Room	Freq	%	Reasons	Freq
First floor	31	52.0	More private to wear comfortable clothes	15
			Close to all bedrooms	10
			In the middle of the house	8
			Casual furniture	6
			It has TV	6
			Big family public space	5
			Close to preparation kitchen	5
			To keep children away from guests	3
			Away from the main entrance	3
			More control on my children	3
			Away from Dywaniya	2
Ground floor	24	40.0	Close to main entrance to control the entrances	17
			To keep the noise away from bedrooms	4
			Easy access	9
			More control of the house	5
			Close to dining room	2
The courtyard	4	6.6	Easy access	2
			Big	2
			Fresh air	1
Reception room	1	1.6	To enjoy the furniture	1
			Best location	1
			Usually used for guests, but my family is priority	1

Total	60			94
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The answers to this question show the importance of the living room in all respondents' daily lives. The living room is considered the heart of the Kuwaiti house. It is where the socialization, family interaction and children playing take place and where the big TV and other entertainment gadgets are located. People are more comfortable in how they dress, the way they sit, or lie down to take a nap. It is the place where the family spends most of their time in ease and comfort. It is the place where love and belonging needs flourish and are nourished.

In Table 56 it can be seen that there were two different responses to question 46. Some respondents like to have the living room on the ground floor so they can use it in many ways; as a living room or reception room, due to its proximity to the main door. Also, they have control over the main door to observe who is coming in and out. In addition, it is far away from the bedrooms to keep the noise down and to enhance the bedroom's privacy.

Other respondents prefer their living room to be on the first floor because they can be in more privacy to wear comfortable clothes, and to be more free to do social activities with family members without being interrupted by other strangers looking in from the street or by unexpected visitors. Also it is in the middle of the house and close to the bedrooms, which is healthier, and from a design point of view, is more suitable to enhance the main task for the living room. Designers and legislators should consider

designing a smaller living room to obtain greater intimacy or, on the other hand, enlarge it to accommodate several conversational settings.

47) *Do you need a basement in your house, give 2 reasons?*

Table 57. Is a basement required?

Yes/No	Freq	%	Reasons	Freq
No	30	50	Expensive, it needs a lot of maintenance	13
			Wasting space with no much use	10
			Gloomy, not comfortable to sit in it (psychological issues)	6
			Little natural lighting	4
			No need/ small family	3
			Bad ventilation	2
Yes	30	50	Safe space for children to play	16
			Storage	6
			Car parking	5
			Swimming pool/gym	3
			Space for newly married son	2
			Recreation	2
			Dywaniya	1
Total	60			80

These days the basement has become an alternative space for socializing, children playing or even a parking space to keep the cars cool out of the sun. The main problem for the basement in Kuwait is the ventilation and its segregation from the rest of the house which sometimes makes it unsafe for children to play there without supervision. Also, the amount of light is an issue. Legislators should consider finding ways to integrate the basement with the rest of the house to ease the control problems to make it a more secure, enjoyable and healthier space.

48) *Do you like to have more than 1 entrance to your house, give 2 reasons?*

Table 58. Is more than one entrance required?

Yes/No	Freq	%	Reasons	Freq
Yes	48	80	Easy circulation (servants loading stuff)	14
			One door for family use and other for guests	10
			Privacy	9
			Segregating men from women	8
			Emergencies	5
			Rental needs	1
No	12	20	Wasting space with no use	10
			Difficult to observe and control	9
			Not safe for children	3
Total	60			69

49) Do you have enough privacy/freedom in your house? How? Give me 1 example?

Table 59. Is there enough privacy?

Yes/No	Freq	%	Reasons	Freq
Yes	44	73	Freedom to do any activities	21
			Enough private space for each member	9
			We are free family	5
			Not adjacent with neighbours	4
			We can wear comfortable clothes any time	3
			High fence separating us from the outsiders	2
No	16	26	Close adjacency with neighbours	5
			Small house	5
			Open plan	5
			Maids around us most of the time and their room is close to us	1
Total	60			60

50) Are you segregating men and women in special events, give 2 reasons?

Table 60. Segregation of men and women

Yes/No	Freq	%	Reasons	Freq
Yes	47	78	Islamic/ social norms	35

			More freedom/privacy for both sexes	13
			Only if we have unrelated visitors	7
No	13	21	We are nuclear family (small family)	11
			No difference between sexes (free family)	7
			No space	4
			To allow interaction between men and women	1
Total	60			78

After the discovery of oil many Kuwaitis became rich and materialistic, and eager to have more freedom and a luxurious lifestyle and keen to be modernized no matter what. In spite of all this, their nature as Muslims and human beings has profound roots in their spirit. Privacy in Islam has a powerful impact on Muslims' daily life. From questions 49 and 50 we can see the importance of privacy and following the Islamic rules and regulations for the majority of the respondents.

People tend to want space with privacy to have freedom to be alone or to do social activities with their family members. Legislators and designers should provide houses that offer a full spectrum of spaces: spaces that are clearly public, such as the courtyard or the back/front yard; semi-private spaces where the activity can be heard and seen, which is beneficial for those who want a private space without feeling isolated from the rest of the family, like the living and dining rooms; and finally, spaces providing the complete privacy offered by a separate structure for sleeping, where noise from the living room cannot be heard. Whatever the size of the house, the need for different levels of privacy is a critical design component. The house may look very beautiful but actually be quite impossible to live in because there is no place to be alone; or it can go to the opposite extreme, with every space so separate that there is no sense of focus

(Susanka, 2000). Kuwaitis need privacy inside their houses, not only for family members, but also for their guests and friends.

From the Islamic religious aspect, segregation between men and women is obligatory. Therefore, if a Kuwaiti family has male and female guests the family members should provide separate spaces for socializing and interactions. Usually Kuwaiti men use the *Dywaniya* and women use the reception room or the living room so they can talk freely, and they can take off their veil and be more comfortable. The need for privacy should be fully satisfied in Kuwaiti houses, as it is considered one of the safety needs in Maslow's humans needs hierarchy.

51) Please give your opinion (good/bad) about the following items in your house, and give reason for your choices

Table 61. Opinions about different aspects of the house

Items	opinion	Freq	%	Reason	Freq
Air conditioning	Good	47	78	Unit in each room	17
				Central air conditioning	29
				Adequate amount/small house	3
				New devices	2
	Bad	13	21	Old machine, not enough	5
				Large windows and a lot of heat	13
				Not central	2
				I have more than I need - too cold	2
Lighting	Good	40	66	Not too strong for eyes	6
				Professional modern lighting	8
				Sufficient for the house	9
				Spot lights and chandelier	6
				Well distributed	9
				Large windows/natural lights	4
	Bad	20	33	Insufficient lighting	3
				Depressing	6
				Small windows	5
				Many spotlights, very bright	4
Ventilation	Good	43	71	Big windows	29

				Ventilation device	8
				Windows open towards the garden/courtyard	6
	Bad	17	28	No ventilation for maids' rooms	1
				Some rooms has no/small windows	10
				Kitchen inside and small windows	3
				Windows are toward main street & neighbours	3
Safety	Good	32	53	We live in safe area no accidents so far	10
				Full security system	5
				High standards locks and window bars	9
				Electrical shutters for windows, doors	4
				High fence	4
	Bad	28	46	No bars on windows	5
				No security equipment	7
				Weak materials for doors and fence	4
				Big doors and windows	2
				Large house and many entrances	4
				Bad neighbours	2
				Unsafe material	3
				Balcony toward the streets	1
Maintenance	Good	36	60	Every year	12
				Try to do it routinely	8
				Company take care of it	8
				We used good materials that last longer	8
	Bad	24	40	Constant faults due to its age	5
				No professional workers	13
				Cheap materials, constant maintenance	6
Privacy	Good	37	61	Every one has their own space	14
				I have full freedom to do all activities	13
				Not adjacent with the neighbours	10
	Bad	23	38	Close neighbours, no privacy for women	11
				Maid's rooms close to us	1
				Noise from neighbours	2
				Small house, small and few rooms	4
Kitchen	Good	32	53	Open plan	5
				Fully equipped	7
				Big	12
				Good ventilation	3
	Bad	28	46	Main kitchen/ annex, preparation/ inside	10
				Small, it conflicts with big family	9
				Main kitchen inside	8
				We need preparation kitchen inside	7
Guest room	Good	43	71	Preparation kitchen close to bedroom	4
				Good size	13
				Close to main entrance	9
				Highly decorated	10
				Facing the garden	2

				It has its own facilities	4
				Separated from the rest of the house	5
	Bad	17	28	Small	7
				Rarely in use, it is wasted space	3
				None, small house	4
Bedrooms	Good	42	70	Open to living room, no privacy	3
				They have their own bathrooms, dressing room.	14
				Full privacy	6
				Big	17
				Enough for now	5
	Bad	18	30	Small	6
				No private bathroom	4
				No privacy, facing main street	3
				No space for closets, no walk-in closets	3
				I need more	2
Courtyard	Good	23	38	Privacy	5
				Gardening	4
				Children play space	6
				Good size easy to maintain	1
				Big for family gathering and socializing	5
				Freedom to do activities	2
	Bad	37	61	Small, no space for activity	15
				No privacy	1
				None	16
				Needs constant maintenance	2
Car parking	Good	27	45	So big it is space waste	3
				Enough space for my family	20
				Wide street to park	4
	Bad	33	55	Close to main entrance, easy access	3
				Not enough for my family	20
Adjacency	Good	19	31	Crowded street with neighbours' cars	12
				Not shaded	1
	Bad	42	70	Enough space between us	8
				Privacy	10
				No privacy, close to neighbours	11
				Ignorance of neighbouring etiquette	3
Flexibility	Good	24	40	No interaction between us	28
				Enough space for future expansion	12
				We can use the courtyard	10
	Bad	36	60	We can use the roof	2
				No space	23
				Difficult, built of concrete	8
Storage	Good	30	50	Lot of construction columns	5
				We have enough	24
				Easy access to inside and out the house	2
	Bad	28	46	Using the basement	4
				Few storage spaces	12

				None	9
				We are using the roof, not protected	2
				We store under the stairs	3
				We are using the courtyard	2
Bathroom (W)	Good	32	20	Big and enough	12
				Fully fitted and equipped	9
				Sufficient for family member	11
	Bad	26	43	Small not enough	9
				Few numbers we need more	12
				Bad location	1
				No ventilation	2
				Not accessible to handicapped	1
				Traditional floor toilet	1
Dywaniya	Good	39	65	Good size	10
				Separate from the house	11
				It has its own entrance	17
	Bad	21	35	Small	5
				None - we need one	15
				Attached to the family house no privacy	1
Maid's room	Good	45	75	We remove it to enlarge the living room	1
				Separate from house, roof F, annex M	19
				Good size	6
				They have privacy	10
				Close to the kitchen	3
				Segregated one for men another women	5
	Bad	12	20	Bad location	2
				No privacy for them	2
				Small	7
Segregation	Good	50	83	None - we need one	3
				Separate spaces for more freedom	19
				Islamic norms	14
				None, free family	5
				We have added more rooms	2
				Men have their own entrance (Dywaniya)	7
				Big house more available rooms	3
	Bad	10	16	No enough space	6
Style	Good	38	63	Open plan	4
				Modern	22
				Traditional	12
	Bad	22	36	Classic	4
				No character	9
				Not up to date	7
Colour	Good	40	66	Government house	4
				Each room has style, very lavish	2
				Natural colour	35
				Cold colour, blue, green, light yellow	5

	Bad	20	33	Multi bright colour	9
				Dark not suitable for Kuwait weather	7
				Limestone boring colour	4
Furniture layout	Good	36	60	Comfortable	11
				Not cluttered	10
				Beautiful	5
				Flexible, easy to move around	8
	Bad	24	40	Cluttered, small space	10
				Lavish, so many and not in use	5
				Bright colour	1
				Not planned, because of walls and windows	6
Interior/exterior garden	Good	34	56	Old	2
				Beautiful	13
				Gardening	8
				Health	4
	Bad	26	43	Exterior garden has children's toys	9
				None, no space for garden	16
				We need interior one	6
				Hard to maintain, hot weather	4
Water feature	Good	8	13	Relaxation, recreation	8
	Bad	52	86	Noise	3
				A lot of maintenance	4
				None, no room	45
Heat insulation	Good	37	61	Cool space	37
	Bad	23	38	None - we've never been introduced to it	9
				Not used	14
Sound insulation	Good	26	43	Quiet	16
				Privacy	10
	Bad	34	56	No privacy	13
				Noise coming from street and neighbours	15
				Old house they don't have at that time	6
Balcony	Good	48	80	Opening to outside	1
				Small size facing the street, easy to clean	2
				None	45
	Bad	9	15	No privacy close to neighbours	2
				Ugly look	1
				We close them all, dirty space	2
				Not in use	4
Garage	Good	10	16	Enough space, safe	7
				Shaded	3
	Bad	50	83	Not enough room	10
				None	40
Stairs	Good	38	63	Good location	15

				Wide	10
				Beautiful design	6
				Not steep	2
				It has natural light	2
				In the middle of the house	3
	Bad	18	30	Ugly design	5
				Taking big space from ground floor	6
				Small	3
				Steep uncomfortable to use	4
Windows	Good	37	61	Good size	16
				Big, facing toward garden	7
				Angled with sun direction	7
				Double glazed	2
				Big for ventilation and sunlight	5
	Bad	23	38	Small	12
				Toward the neighbours	4
				Too big, very hot in summer	5
				Bad location	1
				Facing the sun	1
Doors	Good	51	85	Good location	12
				Big enough size	22
				Strong materials	3
				Fit the house design	12
				Wood and glass for light	2
	Bad	9	15	Many of them	2
				Ugly design	2
				Small	2
				Location conflicts with furniture layout	3

This question is an evaluation by the respondents regarding their house design and it lists the hierarchy of their requirements. The responses are classified into good and bad qualities. The question was designed to help legislators and designers in future house design.

8.6 Classification of the Responses

In this section the responses to the questionnaire are classified into three categories: **objects**, **adjectives** and **activities**, as shown in the tables in this chapter (see Table 62

on p.310, Table 63 on p.322 and Table 64 on p.331). This classification is based on Ujam's model (Witworth, 1992). It is hoped that this classification will make the responses more manageable and more easily interpreted by the legislators.

The three categories cover the whole environment of motivation, interpretation and reaction, where motivation is an object like house, staircase, sofa, or *Dywaniya*; interpretation is what the observer feels when they experience the object, expressed by using an adjective, such as comfortable, practical, clean or old; while the reaction of the respondents to their interpretations to the motivation is an activity, for instance, sleeping, eating, playing, cooking, socializing or decorating. Most of these activities need to be considered and investigated by legislators in order to improve the current Kuwaiti housing legislation.

The classification tables of categories exemplify responses and their frequency. Each table presents a category according to how many times the respondents mentioned that specific response/category; it is considered to be an indication of its significance. In the following section, the responses from each category will be explained to discuss and elicit the reason for their significance.

8.7 Objects

According to Wikipedia (<http://en.wikipedia.org/wiki/Entity>) an object is a physical entity that is tangible and within the grasp of the senses. In this study the context of an object is a physical element of the natural and built (man-made) environment. This includes the natural environment, which refers to geographical features and places, whether they have constant aspects like, for example, the sun, or changeable aspects,

such as environmental conditions like humidity, and plants and other appearances of life. The built environment contains physical and non-physical variables. The physical changeable factors are those that are embedded within artificial arrangements of different factors, materials and the spaces between them as a consequence of people's alteration of the environment to achieve their physical functional needs. The non-physical variables include the different activities, memories, principles, traditions, and spiritual meanings within the space. For instance, mosques are places that cannot be shaped only through their physical attributes, but through the activities that take place in them, connected to society's socio-cultural values. This section represents the discussion of the most important objects mentioned by respondents.

Table 62 presents the objects that were mentioned positively by the respondents.

Table 62. Classification of objects by respondents

Objects	Responses	Frequency mentioned	Total
Villa/modern house	Freedom of Design	59	
	Large space	25	
	Privacy	18	
	Use of technology	18	
	Enough for family members	17	
	Independence	12	
	Flexibility/ability to expand	17	
	Garden/courtyard	8	
	Security	5	
	Private individual rooms	9	
	Large windows	8	
	Open plan	5	
	Private bathroom	4	
	Preparation kitchen	2	
Traditional house	Fits cultural & daily needs	16	
	Simplicity	15	
	Large spaces	12	
	Privacy	8	

	Gardening	7	
	Ventilation	6	
	Economic	3	
Courtyard	Yes	51	
	No	9	
	Space for children to play	39	
	The biggest advantage of the traditional house	33	
	Open shaded area/outdoor activities	26	
	Privacy	19	
	Thing that gives the most satisfaction in the house	14	
	Gardening	20	
	Family socialization	14	
	Fresh air/ventilation	11	
	Future expansion	2	
Bedroom/bed	Most essential space	52	
	Comfortable	21	
	Big	21	
	Private bathroom/dressing room	16	
	Full privacy	6	
	Most used	6	
	Children's play space	6	
Living room	Space where the family spends most of its time	60	
	Most essential space	51	
	Family gathering	53	
	Children's play area	30	
	Big for family socializing	8	
	Respondents' satisfaction	5	
Reception room	Most essential space	29	
	Most expensive room	19	
Kitchen	Most essential space	28	
	Big	18	
	Main kitchen/annex, preparation/inside	25	
	Fully equipped	8	
Bathroom	Good design	32	
	Most essential space	25	
	Big	16	
	Sufficient for family members	12	
	Many, need maintenance	7	
	Comfortable	8	
Dining room/table	Comfortable	35	
	Encourages interaction	15	
	Most important room	13	

	On floor – traditional /comfortable	10	
	Using table for other activities	5	
Dywaniya	Good design	43	
	Has its own entrance	19	
	Big size	17	
	Men's segregation	14	
	The most essential space	9	
Interior garden	Most liked to have/have in the interior	54	
Maid's room	Separate from house	20	
	Having their own privacy	12	
	Most essential	9	
	Good size	6	
	Male maids separated from female maids	5	
Technology	Computers	29	
	Telecommunication	13	
	TV/DVD, sound system, satellite	10	
	Security	9	
	Home theatre	9	
	Elevators	6	
Building materials	Marble	30	
	Glass/stained glass	26	
	Heat insulation	15	
	Concrete	13	
	Ceramic/mosaic	10	
	Brick (milestone)	9	
	Wood	24	
Children's room	Essential space	7	
	Segregation	3	
Basement	Safe space for children play	31	
	Family gathering	5	
	Storage	6	
	Most essential space	4	
	Car parking	6	
	Swimming pool/gym	3	
	Not used/bad ventilation	4	
Children's play space	Essential space	3	
Storage	Most liked to have in the interior	3	
Back/front yard		3	
Balcony	Watching the street	1	
Garden	Children's play space	24	
Laundry room	Big space for big family	7	
	Separate	1	

Traditional floor sitting mattresses & pillows	Comfortable	2	
	Multi-use	1	
	Simplicity	1	
Water features	Most liked to have/have in the interior	55	
Gym/sport room	Most liked to have in the interior	2	
Close plan/ designated spaces	Most liked to have in the interior	1	
Staircase	Location and design	33	
Windows	Good size	27	
	Large bring heat	7	
Doors	Size, harmony	51	
Furniture	Modern	14	
	Casual	17	
	Comfortable	4	
	New	14	
	Big/clutters	10	
	Flexible	4	
	Wooden furniture-luxury	3	
Wall covering	Wall covering	19	
Art, sculpture, poetry		5	

8.7.1 Villa/house

It is important for legislators to understand that Kuwaitis prefer to live in a villa or house, rather than a flat, regardless of whether it is in a high rise building or within a house. Kuwaitis come from living in traditional houses where family safety, family members' freedom, Islamic values and privacy is splendidly embedded. This study and the Third Master Plan study 2004 shows that:

Kuwaiti families do not accept living in other types of housing but villas or palaces or traditional houses. The main feature of this is a plot of land privately owned (area not less than 400 square metres for construction of the house. (Kuwait Municipality, 2004, p.8)

Villas give people freedom to design their own house, giving them the possibility to articulate their self esteem to show their success and their status. Accordingly, a house or villa provides more space to have large spaces/rooms to hold more activities. Also, from a global viewpoint where the concept is “the bigger the better”, size is considered an indication of wealth and accomplishments. On the other hand, living in an individual property or land gives more privacy and independence to a family, which in a culture like Kuwait is fundamental; in contrast to the family that lives in a flat within a complex or high-rise building where they share the neighbour’s daily lives.

8.7.2 Bedroom

The bedroom is the space where we spend the most time. As human beings, we need a comfortable and safe space to sleep to be able to function. Most Kuwaitis start their day around 8 a.m. and finish their job around 2 p.m. and it is part of the cultural norm for people take a nap after lunch with the family members. So the bedroom is used twice, if not more, during the day and night especially if the room is equipped with entertainment facilities.

Most of the respondents emphasised the importance of the bedroom and its amenities like the bed, as they consider the bedroom is a ‘refuge’ for themselves after a long, strenuous and demanding day. As many as 30% of the respondents mentioned their bed as the most preferred piece of furniture in their house. In fact, according to Crawford:

In a time when nothing is forever and even tomorrow can feel uncertain, when our sense of self can be dashed in a day, by work gone wrong or gone

mechanical, by love gone awry, or a careless word, there is always bed. Size wise, the bigger the better. There is something soothing about being completely encompassed. Here you are less visible. A sort of home within a home. Bed is a sanctuary, a place to immerse yourself in your DNA, to wrap yourself in your own smell and that of your dearest, to centre yourself, to feel protected until you are ready to face the world again (and more people than you might imagine have found bed their most creative space: among them Matisse, Hemingway, Colette). (Crawford, 2005)

The reason the researcher is highlighting the importance of the bed is so that legislators will consider the size of the bedroom. According to the current Kuwaiti housing legislation, the minimum size for the bedroom is 10 metres square and 3 metres wide. With their lack of knowledge, people and architects tend to use this minimum specification as an exact size to achieve the client's other requirements; so they end up with very small bedrooms with no opportunity for comfort.

In addition, it is important that legislators pay more attention to the bedrooms' location due its effect on users' privacy. In Kuwait, most of new designs of both public and private houses have the bedrooms located on the main street, which greatly limits their privacy. Environmentally, the orientation of the bedroom is crucial because of the sun's heat and light, so the north side of the house is more suitable for such a room and its activities.

8.7.3 Reception Room

The reception room in a Kuwaiti house is important because it is the place where strangers or anyone who is not a very close friend would be received, shown hospitality, and entertained. It is where there is most opportunity to display the household's wealth and accomplishment and high quality of style, and it is especially the place where the female (the mother or the wife) can show her taste in design and home furnishing as she is in total control in all matters of the home, socially, financially, and in home style. This room should be in a location that does not interfere with the rest of the rooms in the house, as it might be used for outsider guests. Most of the respondents mentioned that this room is the most expensive room, so a place to display art and expensive accessories is necessary. It should not be less than 36 square meters as sometimes this room used for events such as an engagement ceremony, or receiving condolences or for friends' gathering for dinner or afternoon tea. Importantly it is usually a female room and male family members would very rarely gather in this room, so segregation is a must.

8.7.4 Kitchen

Nowadays, Kuwaiti people usually have two kitchens in their house, a main one and a second one, known as the preparation kitchen. The preparation kitchen is smaller than the main one, and is usually located on the ground floor to serve the family when they are entertaining friends or guests, as it is more convenient for the female family members or female servants to serve the refreshments and finger food to their guests, so there is no heavy cooking taking place in this kitchen. Other preparation kitchens would be located on the first floor to serve the family for late snakes, tea, or coffee. Again

having these separate kitchens is to enhance the family's privacy, as the main kitchen involves a male chef, therefore it is always located in the annex.

As mentioned earlier, the Kuwaiti family typically gathers daily for two meals. In an extended family the whole family would also gather for a couple of meals a week, usually on Fridays or Mondays. Preparing for this gathering is not an easy task in terms of cooking as the Kuwaiti traditional meals require a lot of preparation. In addition, a large variety of dishes is often prepared as a sign of hospitality, love, and spoiling the family members, the children and grandchildren. Most of the time a Kuwaiti family would have a cook/chef to help the woman of the house prepare and serve the meal. At this time all the female members and their servants would be in the kitchen to assist. So the size of the kitchen is important so that it can contain all the facilities, including kitchen utensils, and an area for food storage or pantry (*dar Alchael*) (storage will be discussed later). Ventilation is crucial because these meals increase the level of heat in the kitchen specifically and in the home in general, and cooking causes stagnant air filled with pungent smells. Primarily the odours are caused by a variety of spices; the amount of spices used is substantial, as several dishes are prepared in oversized portions. Cooking time requires several hours; therefore, the odours spread throughout the house, even to the bedrooms.

This brings us to another issue in modern houses, as these days people and the government are designing houses in which the main kitchen is inside the house or is located in the annex but connected to the house, which is inconvenient.

8.7.5 The Pantry (*Dar Alchael*)

The pantry is a room, usually connected to the main kitchen, with shelves and freezers. One of the privileges provided by the government is a monthly food supply for each family according to its size. This includes rice, which is the main food for Kuwaitis, sugar, milk, tomato pastes, oil and many other food products. These items need to be stored in a dry clean space that is handy to be used easily. Besides the dry ingredients, big freezers are located in this storage area too, so that large quantities of meat, fish, poultry and seasonal vegetables can be stored. It is therefore convenient for this storage to be connected to the main kitchen and it is important to have good ventilation and safe utilities.

8.7.6 Bathrooms

The bathroom is one of the most important spaces in the house as one starts and ends the day in it. In religious terms, bathing and purification is a main concern for Kuwaitis as Muslims. Praying requires making ablutions five times a day for five prayers. In addition, in a hot country like Kuwait taking a bath once or twice a day is normal. Segregation in the bathroom is also crucial.

Architecturally, the bathroom's location and orientation is regulated by Islam. It should be away from the worshipping space and toilets out of respect, and should be oriented in the opposite direction to Mecca. Moreover, there are strict rules, and supplications should be announced every time a person enters the bathroom. The bathroom is therefore an important space in the Kuwaiti house, so should be designed and located with consideration, as it influences the family's daily life. That is why most of the respondents were concerned about their bathroom and they prefer to have big,

comfortable bathrooms, both individual and combined with each bedroom, as well as separate ones attached to the guest rooms, maids' rooms and *Dywaniya*.

8.7.7 Dining Room

Culturally, Kuwaitis used to, and some of them still do, eat on the floor. From the point of view of Islamic etiquette people preferred to use their right hand, using three fingers. Eating activities would take place in the living room or the courtyard. But after the discovery of oil and the influence of globalization people now tend to eat at tables, using silverware. The table is not yet used as it is in the USA and Europe as a family gathering place for a cup of tea or socializing, as in Kuwait these kinds of activities take place in the living room.

These days most houses have two dining rooms, one used as formal dining room, located close to the reception room and used only in guests' presence, and the other one is close to the preparation kitchen and the living room for daily use and casual daily dining. In the case of the nuclear family the whole family would sit together and have a meal, but in an extended family the males and females would be segregated. Where numbers are large and the space small, the men would have their turn first, then the women and children.

The dining room has become a new trend in Kuwaiti culture, and its elements, from furniture to seating order, to the eating etiquette, are in the process of changing in imitation of the west. The dining room or eating space has become a social space where the family interacts and a place where a family can show their modern lifestyle and have a sense of well-being. Despite the fact that it is a new custom, the dining room has

become an important space that Kuwaitis demand, and it is highlighted in every house design whether this room has a table or whether the family uses the floor.

Legislators should provide the right location, which should be close to the preparation kitchen and away from the guests' sight and ears. It needs to be big enough to include a table and a suitable number of chairs and extra chairs for unexpected visitors; also to allow space to circulate for the family members and the servants when serving and having the meal. Facilities such as at least two sinks should be included and these should be located a considerable way from the table to prevent the noise of people's washing procedures being audible, as it is an undesirable act most people avoid during dining.

8.7.8 Dywaniya

According to Magameess (1992, p.19), the *Dywaniya* has an important impact on Kuwaitis' life, both in the past and in the present time. It is considered a small club or parliament but without laws or rules. It is the place where a group of males from different classes can meet, forming a sort of small society in each alley, where social, political, religious, and local matters are discussed. The conversation within these *Dywanias* is honest, and it has absolute freedom for personal opinions. It is a public place for all sorts of people, whether educated or not, rich or poor.

In the last few years, due the phenomenon of modernization and the limited land space, Kuwaitis have started to avoid having a *Dywaniya*, believing that it uses unnecessary space. And perhaps for a new family is not essential; particularly if they have just started their life in a new house. But after few years the *Dywaniya* becomes a significant

space for male members of the household, especially when there are male teenagers in the household who have started to practise the lifestyle of manhood. So it becomes necessary to designate space where they can have their segregated space away from the family.

8.7.9 Staircase

Respondents mentioned the staircase as being important as a device people use in their circulation around the house. The staircase should be located in clear space that allows people easy access in both daily use and in the case of emergency. The staircase is often neglected in the design process in terms of its design, size, location, and elements. In governmental or private houses the staircase is designed only to fulfil the building code rules and regulations, and not as a space to enjoy aesthetically and functionally. However, the staircase could be piece of art, especially if it is located in the front of the main door. It is possible for legislators to leave some room for self expression and beautification that people could enjoy while they are travelling to the upper level. On the other hand, from the privacy aspect, the staircase should be somehow hidden so the family members can use it when guests are present without being exposed.

8.8 Adjectives

Adjectives are used to express the qualities and characteristics of people's opinions and ideas regarding the objects in their houses while they are going about their daily activities. The following table (Table 63) contains the adjectives that respondents used, presented as responses and their frequency.

Table 63. Adjectives used in describing houses

Adjectives	Responses	Frequency	Total
Quality of house	Good housing features, design, materials, etc.	1008	1751
	Bad housing features, design, materials, etc.	743	
Area description	Close to centre	49	
	Good service/utility	40	
	Adjacency	34	
	Good design plan	26	
	Close to family	25	
	Quiet/safe area	23	
	Low population	16	
	People	15	
	Wide streets	14	
	Large land property	8	
	Front/back yard	7	
	Modern	4	
	neighbourhoods		
	Close to work	4	
	Low car traffic	3	
Privacy	Freedom	55	
	Segregation	47	
Insulation	Hot/cold	37	
	Sound	25	
Ventilation	Clean fresh air	60	
	Small windows	12	
	Healthy	4	
Comfortable	Resting/relaxing	33	
Aspects of Materials	Last long	12	
	Easy	12	
	maintenance/durable		
	Environmental	9	
	Luxury	8	
	Heavy duty	5	
Colour	Soothing	7	
Neighbourhood	Neighbours	8	
Safety	Danger	58	
	Controllable	44	
	Fire hazard	3	
Family/Interaction	Family socializing	51	
Traditional housing	Simplicity	13	
	Easy to use and live	8	
	Easy to build	3	
	Not expensive	3	

	Bad lighting	2	
Modern housing	Fit lifestyle	14	
	No privacy/open plan	9	
	Beautiful	9	
	Small, no place for children	8	
	Technology	4	
	Bad layout	2	
Space sufficiency/specification	Large/small	64	
	Fulfils current and future needs	63	
	Extension/adding space/room, bathroom, kitchen	44	
	Waste areas	41	
	Size	18	
	Cleaning	16	
	Location	15	
	Renting	7	
	Reliable	4	
	High ceiling	4	
	Bad layout	2	
Cost	Affordable	18	
	Expensive	3	
Interior architecture	Uncivilized	5	
	Not satisfied/bad	58	
	Decoration	42	
	Satisfied/good	22	
	Lighting design	15	
	Modern/traditional	13	
	Good interior design	12	
	Unique design/different	12	
	Natural light	8	
	Open plan	8	
	Nice details	5	
	Tedious	4	
	Nice exterior façade	4	
	High ceiling	4	
	Bad layout	2	
	Identity	3	
	Modern/civilized	2	
	Flexibility	2	
Bad plumbing	Bad installation	10	
Easy life by Technology	Entertainment	16	
	Safe space	8	
Comfort/relaxation	Comfort	79	

Orientation	Orientation	45	
Beautiful	Furniture	7	

8.8.1 Quality of house design and design elements

At present people consider the house not only a shelter, but also a space for well-being, a space that sustains their values and norms, a gallery that exhibits and demonstrates their wealth and how successful they are. The economic value of commodity housing is also interpreted as an indicator of social status. In the west, the great houses and courts of England and France were constructed as public displays of wealth and power (Stone, 1991). Moreover, the promotion of house ownership in North America has historically been used as an indicator of family success and stability. Ownership is an indicator of freedom from subordination and the attainment of financial and familial security (see <http://family.jrank.org/pages/817/Housing-Housing-Symbol.html>).

In modern times, and especially after the war in 1991, Kuwaitis have more appreciation for house design and design elements, and have more sense of their interior architecture as a space they interact with in their daily lives. The house design and its features were mentioned 1,751 times in the interviews. This indicates its importance and its impact on people's daily life. Respondents are calling legislators and designers to address these matters with more attention and tolerance.

8.8.2 Area

There are a lot of concerns when it comes to the area where one will live for several years. This area should satisfy specific needs, such as closeness to the city, and to family/relatives and friends, the services and utilities, safety and other factors that

provide serenity and peace of mind. Many of the new Kuwaiti areas lack such factors due to the government's neglect, which has made the people turn their faces from them as they are not desirable.

On the other hand, when the area has mixed-use buildings, mixing local residents with single foreigners, with narrow streets that limit car parking and create congestion daily when parents are picking up or dropping off their children at school, for instance, it is indeed not attractive for people to live in such areas. In Kuwait, it is the area that determines the style of the house and the class of the people who live in it; people who live close to the city get all the attention and care, in contrast to those located further from the city. Areas should be treated equally in all standards as all their inhabitants are human beings.

8.8.3 Family Activities

Kuwaiti culture is based on the Islamic rules and regulations, and despite the factors introduced by the discovery of oil and the prosperity and modernization that came along with it, it seems that people still keep the bound in terms of activities among family members and relatives. Respondents frequently mentioned family interaction and activities and the spaces that hold these activities like the courtyards, living room or basements, as well as spaces that embrace the family's activities with friends or neighbours.

According to Duncan (1985), there are two different types of societal social behaviours: collective and individual. They offer a basis for explaining housing forms as a result of their social framework. Collective social behaviour tends to promote strong social

relations, while individualistic behaviour tends to promote weak socialization. Therefore, the family who lives together as a collective subgroup builds a strong foundation that strengthens their social behaviour. As a result, in a society like Kuwait where families live and socialize daily, space to nurture this kind of family interaction and activities is significant and necessary so people can live in harmony and serenity, and enhance their cultural values.

8.8.4 Ventilation

Mysak, Mahfoth and Al-Asfor (1998) pointed out that because of the topographic location of Kuwait the plain is one of the main sources for sand and soil in the world. The north-western winds that blow almost all summer transfer all these grits from the vast area of deserts toward Kuwait City, making the houses full of dust. In addition, because of Kuwait's location the sun's rays become vertical in July and August, making the daytime fourteen hours for most of the summer season, from March to November. In this kind of weather, people are very concerned about their house's interior environment in terms of indoor air quality, and they are keen to get as much fresh air as possible.

According to Foster, Stelmack and Hindman (2007), studies show that besides the environment, some of the materials that people use in their interior are toxic, such as paint finishes, solvents and many other elements. Unfortunately the majority of Kuwaitis still use oil-based acrylic paints for their rooms which contain volatile organic compounds (VOCs), and a lot of plastic, varnish and wood lamination. All these elements have a substantial effect on people's health and well-being within their houses.

We have inadvertently created indoor air problems due to poor ventilation and the use of toxic materials and finishes. Exacerbating the situation, statistics indicated that we now spend 90 percents or more of our time indoors, further heightening our concern over indoor air quality. The consequence of polluted indoor environments is an overall deterioration in health and well being. (Foster, Stelmack & Hindman, 2007, p.14)

8.8.5 Comfort

Kuwaitis believe that they have all the tools and means to allow them to live in tranquility and comfort within their houses. But why have the majority of respondents not found this feeling in their houses? “Comfort has as much, and maybe far more, to do with the way we feel than the way things look” (Crawford, 1998). This is the reason why ‘decoration’ was mentioned 42 times, with people tending to collect many unnecessary materials in an attempt to surround themselves with comfort within their houses. Many Kuwaitis, thinking ‘the bigger the better’ are building huge houses, thinking that owning such possessions would give them comfort and relaxation even though “the bigger is not necessarily better” (Susanka, 2000). However, these large houses can neither be furnished nor lived in, and their inhabitants can not control, see and interact with their family members.

The word ‘comfort’ was mentioned 79 times in the answers to the questionnaire, indicating that people are striving for comfort and they are trying to find it within their houses. Designing a house that does not implement Kuwaiti culture and beliefs, that is constructed with toxic materials, and exposes the inhabitants to high temperatures by installing large windows that also minimize privacy, all make comfort a hard goal to

achieve. The average individual can not understand these aspects without the help of professional designers. Through legislation this information could be authorized, then people would have more understanding and appreciation of what makes a suitable home, so that in turn comfort would be achieved and would last.

8.8.6 Space Sufficiency/specification

Even though, as this study shows, most Kuwaitis are interested in living in modern ‘Western’ designs they only consider the look and not the function of the house. But such designs for houses come from different cultures and lifestyles. Naylor (2007, p.6) investigated fifteen families living in ordinary 21st-century English houses, and in the book *Living normally where life comes before style* presented “An anti-style bible for those who ignore makeover culture and remember that home should be a place to escape to, to feel happy in, and lot live in”. Naylor stated that “conversation revealed that most folk prefer their homes to be welcoming to others but first and foremost need them to function in a way that suits their particular life and family grouping”. However, in Kuwait the opposite is the reality, the majority of people are designing their house for others not for themselves. That it is why their houses are not sufficient and there is a lot of waste in the property. Moreover, houses have complicated room layouts, require a lot of care because of the weather, and small rooms, all of which is the result of copying just the pictures in magazines or movies. When a foreign culture designs its houses it does so according to its own needs and lifestyle, as Naylor’s interviewees responded; but Kuwaitis consider only the look of the modern house, not the core, and force their Arabic life into it, causing great conflict.

8.8.7 Interior Architecture/Design

Interior architecture or design is now the most essential word as Kuwaitis begin to understand, perceive comprehensively, and live with its elements in terms of house design. In the past interior designers were hired exclusively by rich people who travelled around the world and knew what designers could do, and what functional yet aesthetic interior architecture could add to their daily lives within their houses. But now almost all Kuwaitis are experiencing the sense of interior architecture and design. So the world of design and its elements have become familiar to almost all classes, not just the rich, and people have begun to understand and feel how the interior architecture of the house has an immediate impact on their behaviour and daily lifestyle.

To design is to conceive, invent, and contrive, to form a plan, to have it as a goal or purpose, to intend a visual composition and pattern. When we attempt to arrange parts in a way that is most efficient, attractive or meaningful, we are engaged in the process of design. In other words, design is the conscious and intuitive effort to impose meaningful order (McCreight, 1996).

Houses that have uniqueness, natural light and a soothing lighting system, good interior design, and modern and flexible components are houses that have identity that give people satisfaction in the present and in the future; this is what people need legislators and designers to give them. Houses should have order, goals, and a pattern, be attractive and make people happy to live in and look at, yet remain intuitive to their culture and values. In the end, either the house gives satisfaction or makes one live in anxiety as the normal basic humanitarian needs are not met.

8.8.8 Modern/Traditional Design

Kuwaitis do want the design of the modern house but they do not need its functions and un-environmental materials that make their houses meaningless, a hazard and purposeless. In fact what they do want is to have the functionality of the traditional house and the look of the modern house, as respondents mentioned. This made sense with the availability and the expansion of technology after the discovery of oil (Alhasani, 1996, p. 40).

Nevertheless, both symbolism and invention are fundamental to society; they bring together a continuation of a civilization's contributions, maintaining in the process a sense of familiarity associated with the past and of achievement associated with the present. In other words, as Neutra wrote:

It seems somehow pleasing to see the primitive and modern side by side; it simulates the mind. An old piece of furniture in a modern house may serve as a window, opening up a perspective from one age into another, an outlook from our own enclosed little moment onto the broad of history. (Neutra, 1954, p.105)

It is the designer's mission to architecturally design interiors that nurture and promote balance between the old traditional house design characteristics and those of the new millennium.

8.8.9 Details

No home ever feels truly harmonious unless the details are right. A doorknob is the handshake of a house. If the doorknobs are awkward to hold, if the window sticks

wilfully in its frame, if marble becomes hazardous to walk on - the integrity of our home and pleasure we ought to gain from living in it are diluted (Crawford, 1998). One of the critical aspects of successful design lies in the details of the materials used in the space and its final finishes. Because of lack of understanding of the meaning of the details and the quality of the materials that have been used in the house, people have tended to cover the natural materials with artificial components which make the object or the space unrealistic, out of order and unhealthy. Objects should reveal both the nature of their materials and their proper function. In practice this means an emphasis on revealing rather than concealing the natural grain of wood, the texture of plaster, and the colour of the stone (Scott, Evans & Keane, 1999).

8.9 Activities

This section lists the respondents' activities and actions that take place within their houses and the neighbourhood. These activities are a metaphor for people's way of life and lifestyle environmentally, culturally/traditionally, socially, and religiously. Table 64 shows the activities mentioned by the respondents and their frequencies.

Table 64. Activities carried out in homes and neighbourhoods

Activity	Responses	Frequency	Total
Neighbour/Family interaction	Socialization	128	399
	Visiting	68	
	Islamic obligation	44	
	Strengthen relationships	44	
	Partying	44	
	Food sharing	31	
	Cultural practicing	22	
	<i>Dywaniya</i> socializing	18	
	Safety	2	

Modifying/adding	Maintaining	45	131
	Adding room	34	
	Decorating	31	
	Segregation	5	
	Enlarging	7	
	Landscaping	4	
	Hospitality	3	
	Flat for new marriage	3	
	Utilizing waste area	2	
	Preparation kitchen	2	
Entertaining	DVD, TV, Home theatre	50	
Gardening	Enhance greenery	46	
Playing	Relationship	35	62
	Exercises	27	
Relaxation	Tranquility	27	
Educating	Computer learning	20	25
	Children/women learning	5	
Exercising	Good health	20	
Sleeping	Comforting	12	
Cooking	Preparing big meals	10	

8.9.1 Socializing and interaction between family members and neighbours

Socializing and interaction between family members and neighbours seems extremely important in Kuwaitis' daily lives. In Islam, taking care of family, relatives and the financially, psychologically, and physically handicapped is an obligatory and rewarded deed. It is a religious and cultural duty interpreted in the daily gathering for meals, or helping neighbours or relatives in sharing their grief and sorrow in commiseration, or planning a wedding. This explains why respondents mentioned visiting, strengthening relationships, and sharing food, all of which are considered casual daily practices that Kuwaitis do during Ramadan, or if they have come up with new recipe.

8.9.2 Partying-entertainment

Partying in Kuwait is having a big influence in terms of preparation and money spending. A few years ago, the majority of Kuwaitis held their parties and their big social events in hotel ballrooms as it was difficult and it cost a lot to feed and entertain hundreds and sometimes thousands of guests, especially as one must hold two segregated gender dinner parties. Nowadays, however, people tend to hold their parties in their houses for a number of reasons. One of the main ones is security. After many incidents of losing control over the organization of the guests in the hotel which decreased their privacy, people started to feel safer and more in control within their house, especially women, who can take off their veil during the party. Second, it is a chance to show off their house design and lifestyle within their house which reveals their high standard of style and decoration. Third, the family can keep loving memories of the space where they grew up and these stay for years with their children. Fourth, it is much cheaper than using hotels and functional halls. For all these reasons, designers and legislators should be aware that having a reasonable-size house, with flexible materials that can be modified according to its inhabitants' needs and with a suitable location for a room or space that could be converted to an all-purpose function room within the house is significant for modern Kuwaitis.

8.9.3 Decorating

Brett (2005) claimed:

I take it that I am dealing with a constant of human behavior which, though it takes many forms, is just that - a constant. This is my second basic assumption, that we have an impulse or natural propensity to decorative activity which we

use to make sense of the world (in particular, of the world of objects and places and spaces we have made around ourselves). I take it to be a disposition not unlike the faculty of language and counting, immanent in our nature with out which we would not be complete human beings. Just as there are not societies that do not speak or count, so there are none that do not decorate. (Brett, 2005, p.6)

As part of self actualization decorating is taking a big part of Kuwaitis' lives within their houses. It is an opportunity to explore themselves and their accomplishments by presenting their decorative taste and style, which is why respondents mentioned it 31 times. The word decoration means tranquility and well-being, pleasure for life. Decorative additions are the icing on a cake: sometimes used to camouflage mistakes in what lies beneath, and sometimes appropriate additions that elevate what was good to something outstanding (McCreight, 1996). Kuwaiti people tend to achieve as much decoration they can to beautify the ugliness of governmental public houses.

The other aspect of decoration is the notion of personalization, to be different from other houses in the neighbourhood and other friends. As human beings, the need for decoration is an aesthetic one that humans experience every day, no matter what their cultural background. It is a call for legislators to have flexibility and use durable materials that it is possible to change according to people's needs and mood, as decoration is a significant cultural aspect and variable human behaviour that changes and develops over time.

8.9.4 Relaxation

As mentioned before in Chapter 3, in Islam the house is designed for tranquility and serenity, as the word *Sakan* means something stable, peaceful, that does not move. It is an expression of a space where one can feel secure and protected by strong roots of belonging, so that one can live with no anxiety or stresses. Relaxation means easiness, the feeling of refreshing tranquility and an absence of tension or worry; the easiness we feel when sleeping (see <http://wordnet.princeton.edu/perl/webwn>).

According to the United States Department of Agriculture, the layout of the house should include a specific major family functional area for relaxation. The relaxation zone includes recreation, entertaining, and dining. In Kuwait recreation includes playing traditional games, telling traditional stories and myths, or singing and delivering poems, or playing with the children in the living room or the courtyard. It is a necessity that every human should experience freely and comfortably within their house. The respondents mentioned the word 'relaxation' as something they enjoy while having daily meals or when they entertain their friends and family in a good-sized space with well-designed furniture layout and a good amount of natural and artificial lighting. Relaxation can be achieved with tranquility and peace of mind, whether through gardening, exercising, worshipping, or any activity that family members could do.

8.10 Conclusions

The significant findings of this chapter in the context of the research questions can be summarized in three parts: **city**, **neighbourhood**, and **housing**. Most of the families who interviewed in this survey had 5-7 people living in the same house; so they may be considered to be extended families.

8.10.1 The City

In general respondents were interested in specific areas located in Kuwait City due to their closeness to the city centre, closeness to their family, friends, and loved ones, associated with better governmental care and urbanism. Respondents also showed their interest in keeping the Kuwaiti identity by taking care of traditional buildings with modernizing features and materials with the input of Kuwaiti designers. In addition respondents pointed out that the government should consider the local culture and environment in design. They should stop degrading Kuwait City by ignoring the building code rules and building legislation; which leads to losing the city's identity and risking the safety of the buildings and the people who occupy them.

At the same time, most of the respondents showed less enthusiasm and interest regarding implementing traditional house design characteristics and aspects in their own houses. In contrast, they were moved by modernism and its materiality. These contradictions in respondents' answers indicate that people are deeply concerned to keep their identity as Kuwaitis and they admire the functionality of the traditional design, but they are also concerned that its old-fashioned look will make them seem old-fashioned and outdated. In addition, maintenance of the traditional design house used to be hard in Kuwait's weather. This, and their ignorance of what today's technology could offer to enhance it, puts people off the idea of the courtyard house and its materials despite its practicality. Finally respondents emphasised the importance of providing accessibility for elderly and handicapped people.

8.10.2 The Neighbourhood

It is clear that the concept of neighbourhood in Kuwait is taking a completely different direction nowadays than it did before the discovery of oil. People are more concerned about their neighbours in a negative way. The reason for this is that many families have not chosen to live where they do, but have been forced to move into their particular house for financial reasons or because it is what was allocated by the government. In this case the family has no freedom to choose its neighbours and here is where the issues arise. Conflict between people's background, education, lifestyle, religious practices, and other daily activities puts people in constant discomfort and anxiety.

On the other hand, lack of privacy limits people's freedom within the house because of how close together they are. Furthermore, a loss of the etiquette of Islamic regulation regarding neighbouring is causing anxiety and embarrassment that makes people worry most of the time about their children and other family members. For instance, if the family is liberal this may conflict with a more conservative neighbour in terms of Islamic and traditional values and lifestyle, in how the children interact and learn behaviour and manners. Moreover, sex segregation is crucial in determining whether women can get together and socialize with men, or whether visiting at specific times is acceptable for all neighbours. Even the maids or housekeepers are affected by other neighbour's maids as they get together in their free time.

There are other neighbourhood issues that might arise, to the extent that 85% of the respondents were very keen to choose their neighbours, as 92% were very concerned about their neighbour's impact on the family members, including their safety, personal appearance and so on. All these issues have a profound impact on the family's daily life

within the house as family feels they have to design a suitable small environment inside their house and isolate themselves with their children inside the house instead of interacting with their neighbours. As a result Kuwait has ended up with a divided and inhomogeneous society.

8.10.3 Houses

The results show that most respondents are keen to live within the interior area close to Kuwait city as they will be close to their families and beloved ones. They are not satisfied with living in the outside areas as that has many influences on their lifestyle. Also, proximity to the workplace is another reason that respondents prefer these areas. Being close to their workplace is important for people as it involves less travel by car to work, meaning that less time is needed and less pollution is caused, where air pollution has direct and indirect results on public health.

The need for indoor or shaded safe outdoor play areas within the neighbourhood was crucial for most of the respondents. Most houses do not have enough indoor spaces which make the front yard or the basement the only suitable space for these activities. The problem with these two spaces is the lack of ventilation in the basement in most houses, and the harsh weather in the front yard which makes it impossible to play until the afternoon or evening when the weather cools off, or only during winter, which is a very cold short season. But the fact is parents cannot keep their children inside all the time as it causes overcrowding in the house. This is perceived as a factor forcing children out of their houses to play in dangerous streets where parental surveillance and control is minimal, leading to juvenile delinquency.

In general the spaces and the total floor area of the government public houses and the private house is small (400 sq m). This does not fulfil the inhabitants' needs and generates problems. The city urban planning and building legislation codes, such as the setback requirements, site landscape, building height and density is considered an essential factor in limiting the number of rooms and their size. This is the main reason respondents prefer to live in private houses or villas as they have a larger space, freedom to design and create more appropriate private spaces, and have more flexibility and fulfil many other future needs of their inhabitants' needs.

Respondents also pointed to the balcony as something which is not considered to be a feature of Kuwaiti house design. People end up closing these balconies to gain more privacy and more space indoors, and to minimize the amount of daily cleaning as balconies become dust and dirt collectors during the summer season when Kuwait has long months of dust storms. In addition the harsh weather and the lack of privacy limit the use for such spaces. But even closing the balcony is not an easy task as the majority of the public and private houses are not flexible enough to allow this alteration due to fact that they are constructed of concrete, a hard material that is difficult to alter.

Respondents also mentioned the alterations or changes they undertook within their houses, whether this involved adding a room/apartments, enlarging the living room or bedroom, adding a *Dywaniya* or decorating/renovating the house as their life within the house changes. However, these kinds of alteration are not easy to do repeatedly because changing and redesigning the house is limited by the structural system which fails to meet the expectations of the inhabitants. In addition, it is clear the most of the respondents are not aware of other options in terms of materials.

Respondents mentioned the main advantage of the traditional courtyard house as being a good design with regard to the functional aspects and its potential in terms of future extensions. But it was not regarded as a good design in terms of its luxury or aesthetic aspects, which are important needs for Kuwaiti people as an indication of success, self actualization, good taste and modernization. Also respondents indicated their desire to have a mix between the traditional and the modern house. In other words, they want the functionality of the traditional courtyard house but covered and presented in modern materials and with technological facilities. On the other hand, whether public house or private house the owners keen to participate in the design process, and be aware of its materials and its future expectations.

Adjacency is another issue respondents pointed out. The structure of the governmental public houses determines how well sound is transmitted from outside or from the neighbours. In public housing noise problems are exacerbated through the use of cheap materials, close adjacency to the next-door neighbours, and not using enough insulation in the walls. And most Kuwaitis are not aware of the availability of these kinds of materials, indicating the importance of educating people about building materials; an idea that will be explored in the recommendation chapter in this study.

Chapter 9 Research Findings and Recommendations

9.1 Introduction

This chapter contains the findings of the research accumulated from the theoretical studies and the results of the empirical work. These findings are represented within the framework of a body of knowledge that could help and inspire Kuwaiti legislators and designers in the Kuwait Municipality and PAHC, which in turn will help to improve the current housing legislation, particularly in interior architecture, as this is the main object of this study. The significance of adopting comprehensive theoretical approaches is made clear from analysis of the different theories. This is necessary as this is the authorized realm that allows the Kuwaiti government to improve Kuwaiti people's lives within their houses.

It is important for legislators and designers to consider the history and background of Kuwait in terms of its religion, culture, environment, economic prosperity, and lifestyle, as all these have a significant impact on the design of the house and its interior architecture. The strong influence of Islam on Kuwait's social environment, and its integration with the culture has created numerous and profound layers of traditions and values that orchestrate people's daily lives within their houses. Legislators and designers should listen to the call of these traditions and values and consider them in the improved housing legislation. For instance, the need for segregation and privacy, *Dywaniya* and men's daily social lives, a family's weekly gathering and the need for big meals to be prepared and space to accommodate these events must all be considered in the legislation. In addition, the need for maids to help in accomplishing all these

activities plays a vital role in terms of the freedom and tranquility in Kuwaitis' behaviour and the interior architecture and its materials. Furthermore, Islamic regulations concerning interaction between family members and between neighbours require provision of adequate spaces to hold these activities in terms of location and equipment to facilitate them.

Equally importantly the house is the place where children receive their nurturing and education in their traditions, norms and values. The house may be considered their first school as well as their first space to explore the world, so it has to be safe, secure and healthy to sustain their well-being so that they in turn can pass what they gain to the next generation, thereby promoting the practice of Kuwaiti culture and keeping it alive.

Legislators also ought to understand the significance of Kuwait's location and its demography which make it a complex environment to adapt to and live in with very limited materials. It is strongly recommended that legislators look respectfully at how our ancestors coped with such harsh weather and elementary tools, while the modern house has failed, according to half of the respondents in this study, who indicated that they were not satisfied with their modern house, even with its advanced technology. Regardless of Kuwait's financial classes and desert weather, it is the first priority for all Kuwaitis to make their house their indulgent "oasis" where they can find shelter from the intense heat of the sun and from the repeated onslaught of sandstorms.

Kuwaiti people's modern lifestyles have been influenced by globalization and mixed with Western culture, creating the need for more materials, facilities, technological gadgets and furniture, all of which need more internal space. In the past, for example,

guests were humbly presented and entertained by what was available in the house. But now hosting a guest requires a lot of preparation and endless lists of materials and decoration. These days people's lifestyles require space to hold "receptions", which is a terminology Kuwaitis discovered only recently after the war and which has now become widely used locally. Now every occasion in their lives has to have a reception and invitation cards, whereas in the past such gatherings used to take place naturally and without hassle. For instance, circumcisions, graduations, buying a new house, condolences, giving birth and after the 40 days of giving birth (it is traditional regulation that women should have 40 days to recover from giving birth), buying a new car, Ramadan/Eid, and many other events require a reception for family and friends, meaning that the house is occupied most of the time and it needs to be prepared physically all year round. This kind of lifestyle requires flexible interiors and materials that are easy to assemble, storage to put away unneeded furniture and places to store the food and kitchen utensils. Designers and legislators need to consider the modern Kuwaiti lifestyle as a constantly changing yet traditional way of life, and the house should accommodate this with tranquility and happiness.

9.2 Framework Element and Model of Recommendations

The following recommendations have been put together from parts two and three of this study. It consists of the significant aspects of the physical objects and the non-physical subjective areas that have direct impact on the interior architecture of the Kuwaiti house. As a result, these factors will have critical impact on the improved housing legislation framework.

In this section an illustration of the parts of the research findings will be classified under the umbrella of Maslow's model (1954). Because of the correspondence between the traditional norms of Kuwaiti society and Maslow's theory of human needs that the author extracted in the discussion in Chapter 5, it is important to use Maslow's model as a guideline and map to improve the interior architecture aspects of the current Kuwaiti housing legislation.

Maslow's model is based on five fundamental human needs: physiological and biological needs, safety, love and belonging, esteem, cognitive and aesthetic needs, and self-actualization. It is important that Kuwaiti legislators and designers understand that the life of any person in any space within the house is framed and influenced by their needs as a human being because the form and design of the house is the result of the interaction between human beings and their environment. Motivations in house designs are many and varied and not only depend on personality and culture but also change with time, place, situation, and mood.

What follows are some recommendations accumulated from the research findings illustrated in the light of Maslow's theories.

9.2.1 Physiological and Biological Needs

Flexible floor plan and space accommodation: most of the respondents pointed out the significance of having enough space within their house to accommodate their lifestyle, not only at the time they first move in to the house, but also in the future when the family has expanded and their needs, style, moods and economic requirements have changed. For instance, the empirical work discussed in Chapter 7 showed that having a

courtyard is important in every house, as it is the only space where family members can practise their activities freely with comfort and privacy, segregated from the public outside spaces.

Accessible yet segregated rooms for a maid and servants becomes a critical need in people's lives, to the extent that almost every house has at least two female maids and one male as a driver or a chef. These people need their zone to be comfortable and well ventilated. Also the possibility of future expansion for a son getting married must be considered as a critical need as the majority of newly married couples start their new life with their family within the house by building or redesigning the space with its own entrance and facilities.

Segregation, making two completely separate places within the house where males and females could be entertained and hosted separately with a high standard of space design, size, location, circulation and comfort is also important. Having the minimum room size specified in the current house legislation is not enough; people need to know the specification of room size as well as the suitable minimum and maximum heights, together with an explanation and explicit pictures that support the facts about ventilation, orientation, window-size, materials, and any other aspect of the space's interior architecture, as all these have a massive impact on the human's well-being within the house.

Ventilation and environmental control/Heat and dust control: as mentioned before, Kuwait's demography means it is exposed to very hot weather for at least ten months of the year, associated with sand winds that create dust, as well as intense humidity during

August, and severe cold during January. This kind of weather has caused most Kuwaitis to turn away from the idea of the courtyard as it requires constant maintenance and cleaning. On the other hand, copying other cultures has influenced people to design their houses with huge windows that expose the interior of the house to the intense heat from the sun, and that have many openings that increase the chance for sand carried by the dust storms to penetrate inside the house. Legislators ought to make people understand that by using improved local materials and the many technical and architectural technologies available, the interior of the house could be in harmony with the environment. This terminology and technology should be listed and illustrated in detail in the improved housing legislation.

The hot weather also makes bathing an unpleasant daily task as the sun's heat makes the water boil most of the day time, leading some Kuwaitis to build a separate air-conditioned room on the roof to cool off the water tanks. Water is the main source of life, and the main source of water in Kuwait is the sea after desalination, so water is expensive and therefore to be used carefully. Sufficient water should be provided for the use of the inhabitants, as it is considered a vital resource for life and refreshment in the harsh weather. Besides fresh water, the Kuwaiti government supplies a lower quality of water that is not for human consumption, but is used to clean their house or car and water their garden. But this water is not available every day, which makes the house dirty and in turn means that the family members live in discomfort, so they have no other option but to use the fresh water, which is expensive. In the improved housing legislation it is essential that each house should have two separate tanks of water on the roof, one for fresh water for human consumption and another for non-human consumption to meet the family's daily requirements.

Formal and casual spaces for family and friends gatherings: with the prosperity brought by oil Kuwaitis began to be able to afford, and have come to need, a comfortable and luxurious life. For that reason, people tend to have two different spaces for their gatherings. One is a formal reception room, which respondents mentioned as the most important space in the house, and the other is a casual room for daily family gatherings and very close friends. Despite the fact that people spend lavishly on the furniture and materials in the formal reception room, this room is not in use most of the year. Legislators and designers should advise Kuwaitis to abandon these norms, and stop wasting the property land in a room that is not being used. This applies not only to the formal reception room and casual space, but in every space. Legislators and designers should suggest the idea of multi-use spaces, as this used to be a very practical aspect of the traditional courtyard house.

Making food: just as water is important for life, so is food the other main resource for life, making space to store, prepare, cook, and serve food safely, sufficiently, and in comfort an important requirement for most people. In large extended families the main kitchen tends to be located outside the house in the annex or the basement as it is not desirable to have the cooking smells all through the house. Having enough advanced tools and equipment to facilitate preparing big meals, or even small ones three times a day, is also a necessity.

Sleeping: legislators and designers should offer a private location for sleeping activities as this is a very personal experience. They should advise people to locate their bedroom in space that is suitably private and has enough room to accommodate all sleeping and

relaxation activities, such as a comfortable bed, closets, safe storage, bathroom suites, and massage and remedy areas so that they could stimulate themselves physically and psychologically.

Worshipping: as a Muslim society, praying, reading the Quran, fasting and other activities associated with Islamic obligations are practised most of the time as it is believed that Muslims should always be connected with Allah (God) as it is He whom Muslims believe is the provider for inner happiness, and who controls their destiny, so that all their life is completely built upon His rules and obligations. Thus, designating special space within the house to be considered as a “mall mosque” or a “family mosque” would indeed add to the family’s peace of mind, reconciliation and promote serenity within themselves and between each other.

Building materials: environmentally, limestone is the most suitable exterior building material available in Kuwait and it was widely used in the past. Now its shape and colour has been developed and it is used in most houses, and especially the governmental public houses. However, people have come to dislike it as it is common in every house and has become associated with public housing, which is considered low class and which Kuwaitis try to avoid. Nowadays, concrete is the only available option to build a house. However, most of the interviewees complained about how difficult it is to redesign and prefabricate concrete walls and how expensive and time consuming it is to do small alterations within the house due to its hardness. Climatically, concrete makes the house extremely hot during the summer, which in turn increases the cost of energy use. The need for new materials that give individual attributes is a high consideration. In the interiors of their homes, Kuwaitis are striving to use new, modern

materials that enhance their constantly changing lifestyle and family needs. Legislators and designers should therefore explore and illustrate new building materials that will modernize people's lives within their houses and which will go harmoniously with their interior architecture in terms of prefabrications and decoration in a way that promotes high standards of well-being in their daily lives.

Universal design: it may be a fact that the majority of Kuwaitis have some sort of experience of disability, whether in a young or an elderly person. In this study only one person mentioned her son's situation and her dispirited call for the government to give some consideration for such people who live among us and need special care. Handicapped people find it difficult and are ashamed to show themselves too, as their participation in society needs special facilities to help them move around and interact with others without having to ask for help. In general, in Kuwaiti houses this need is not yet considered, as everything inside the house and out is designed only for able people, making the house extremely difficult and uncomfortable for others. House design regulations that include specifications for disabled accessibility should be presented to every person intending to build a new house. In fact, each house should be designed for future disability as the householder will get old and handicapped accessibility will become a necessity.

Gardening: despite the harsh weather in Kuwait, people desperately try to cool off and create some pleasant greenery and so spend a lot of money to keep their garden alive. It is important for legislators to designate two environmental half-shaded spaces for gardening, one close to the kitchen, and another in the front yard as a play area for children. Respondents mentioned that it would be more practical to have an interior

garden that people could enjoy within their houses with minimum possible maintenance. The interior garden could be complementary to the exterior garden as family members, specially women, could do their gardening there in privacy and joy.

Lighting: it is important to have enough light sources within the house, whether natural or artificial, as it has great impact on the feeling of spaciousness. It is the only way people can see their space and move around safely. Daylight is an important element for human health to enjoy the creation of colour, shade and shadow, and to enjoy nature. Windows, skylights, doors, and courtyards are the main sources of daylight, and their climatic zones and orientation play a big role in determining the amount of light in the interior of the house. Artificial lighting has other advantages, as people can control the amount of illumination within the space.

9.2.2 Safety Needs

No space is inhabitable if it is not safe. Safety can be divided into physiological and psychological aspects. The physiological needs are those relating to the safety of the physical space and its use, while the psychological ones relate to the state of mind of the inhabitants.

9.2.2.1 Physiological aspects of safety needs

The physiological aspects could be classified into health crises, physical vulnerability, and natural calamities.

Health crises may arise from a number of sources:

1. Using chemical substances as building materials like paint and wood lamination within the house;
2. Risks from foreigners such as maids and servants coming to work from other countries who might be carrying epidemic disease and who are living within the house with the family for long periods. As well as maids, foreigners who come looking for a job or even the family neighbour may be a risk;
3. The intense heat that makes insect numbers grow rapidly during the summer and autumn season;
4. Pollution that occurs as a result of the wars and its effects on the environment, and microbes that spread between residential areas due to the lack of treatment facilities, lack of medicine and poor sewage disposal;
5. The increase of automobile use in Kuwait over the last ten years, which has caused harmful effects on people's health;
6. Poor kitchen and bathroom utilities have an immediate impact on people's well-being within their houses, especially if there is not adequate ventilation, fresh air or enough natural light. In the past the courtyard house provided elementary ventilation as the opening court in the middle of the house helped to ventilate the rooms all day long by circulating the air, as well as being a source of natural light. Also people's adoption of natural and available local materials which promoted a sustainable environment made the courtyard house a healthy space to inhabit.

The author urges legislators to get the advantages from the environmental design techniques in the courtyard house by implementing them in the improved housing legislation.

Physical vulnerability encompasses accidents and injury due to poor design decisions, such as:

1. Not using handrails on staircases;
2. Using slippery marble in flooring;
3. Fire hazards due to the lack of easy access within the house and not using fire alarms and extinguishing equipment such as water sprinklers;
4. Electrical accidents which may be caused by using unsafe sockets and electrical gadgets without safety regulations that are reachable by children.

Improved legislation should include strict safety regulations to prevent accidents within the house.

Natural calamities are things like storms, and the intense heat, to the extent that it causes a lot of fires. Also in the last few years Kuwait has experienced several earthquakes; the most recent one, rated 4.3, being in August 2007.

Legislators and designers should consider these dangerous phenomena when they design houses, too, as safety codes and regulations have a critical impact on the physical safety of the house and its people.

9.2.2.2 Psychological aspects of safety needs

The psychological aspects of safety are highlighted when people suffer from anxiety, fear, security, distress, lack of privacy and territorial space within the house and impracticality.

Anxiety is the feeling of stress when the space does not fulfil the needs that it was designed for so that it has to be constantly altered. This is a process most of the respondents strove to avoid as it was associated with unknown workers being within the house, which also decreases privacy.

Privacy and territorial space: in an Islamic culture privacy is a fundamental need and it is the main element to be gained from being within the house, as the house is where people are separated from the public uncertain and unsafe exterior, in a place where they have control and have more freedom to be themselves comfortably, whether alone or interacting with other family members and friends. As a result, the space is territorialized and privacy is sustained. Legislators should consider regulations that provide and respect the notion of privacy within the house by having territorialized and private individual space for each family member to practise their personal activities, as well as for group activities where the family could interact without interfering with the outside world. Privacy could be achieved by giving people a sense of space, as being connected with a space increases the satisfaction of relationship needs; it also provides a sense of territorial control and leads to fulfilment of psychological safety and security needs.

Privacy and territorial space can also be achieved by zoning the house into private, semi-private and public space and by using the theory of space syntax to enhance spatial integration that in turn affects how people use the space within the house and their interactions with each other.

Security: people have always felt the need to safeguard what they own, whether emotional and memorial objects or materialistic objects and items. It is necessary for people to have spaces to protect or display these items within their homes, but keeping such items requires devices like CCTVs and other security devices such as automatic windows, shutters and locks.

Also, having control over entry to the house increases the amount of security that can be achieved. So having one, or at most two, entrances, one for the family and the other for men leading to the *Dywaniya*, supported by automatic gates is desirable. These security elements serve not only to safeguard items, and the people themselves, but also the house in general. So, legislators are required to embed practical secure design into building codes and housing regulations to keep people's items safe and protected.

Impracticality: as life goes on within the interior architecture of the house, so change goes with it due to the interaction between the space and the activities that take place within it. It is therefore crucial to have flexible designs, technology, and modern materials that promote practicality and functionality within the house. In addition, it is important to provide people with a sense of security and peace of mind by making suggestions and plans for future as well as present needs along with the current house design. Not being able to use the house in a way that meets its inhabitants' needs creates

a sense of discomfort, leading to insecurity and fear within the house. Designers and legislators should illustrate different possibilities of house design before starting the building process and show them to the householders by using cardboard models and bubble diagrams, as well as 3D computer animations, for instance, along with a variety of materials boards and technological alternatives.

Owning the house has a great impact on people's lives and their long-term security. In Kuwait, owning the house means owning the land property for ever. So the householder would be sure of security not only for themselves but for all the generations of their family.

Having *easy circulation* within the house provides a sense of familiarity that eases people's movements. Easy access and harmonious flow of the floor plan of the house both helps people to feel safe, as it prevents them from getting lost and simplifies the use of their house, by giving them an intelligible and imaginable physical environment, of which they can form perceptual maps in their minds. In any improved legislation it is important to list and demonstrate codes and regulations that facilitate circulation within the house via flooring material, lights, furniture, art objects, colour, texture and any other aspect to ensure people's safety within their houses.

9.2.3 Love and Belonging Needs

It is people's natural desire to want to feel loved and to belong to a family, society, group, or country. The focus of this study is people's need to belong to a space which is home. In a small country like Kuwait most people know each other; as a result people need to be close to people they know, and to form relationships, biologically or socially,

that provide support and happiness. Belonging could be achieved by zoning and housing people according to their background, and developing harmonious neighbourhoods that are pleasant to live in, safe to move around and do outdoor activities in, and are productive. Most of the respondents mentioned their fears of the neighbour's impact on their family members including their servants. So having a house in a neighbourhood that does not conflict with one's values and way of living, to be loved and belong to, that fulfils their needs for security and affiliations, is something people strive for as it has a crucial impact on their well-being within their house. Thus, this need should be profoundly understood and studied by legislators and designers, and it could be addressed in the following respects.

Social association: living within a group of people one knows and can interact with socially and emotionally supports the need of belonging. For instance, it is a traditional norm in Kuwait in the case of a death that the neighbours prepare a meal for the family in that house every day (condolences take three days) as a supportive gesture that enhances the Islamic regulation of taking care of one's neighbour. The same applies to a wedding or any other happy or sad occasion or event. This means that an individual does not feel alone and neglected, but loved and supported; it would be difficult if one were to live in a social association that did not know these norms and traditional values.

Dywanias and mosques: even though these are limited to men's activities, their influence on all family members is significant. Besides its role in worship, the mosque is also considered a place where people gather between the times of the five daily prayers to discuss their own personal life, socially and religiously. It is a great

opportunity for people to update their friends and neighbours with news regarding their situation to strengthen friendships and neighbourliness.

In the same way the *Dywaniya* also gives the opportunity for the household to be involved in the neighbourhood and to be aware of what is taking place socially and physically. The male members transfer the information they hear to the female members in the family so that they can do their part for the neighbours separately. These kinds of space within the house have a direct impact on the neighbour's family and in return give families a sense of belonging by participating in each social activity in the neighbourhood. It would be helpful if legislators designated space in each area and neighbourhood to allocate as a *Dywaniya*.

Children's play areas: the first place where a child learns the social and other life norms is from interacting with their family members within the house, and with friends in the neighbourhood where sharing the experience of learning and physical activities take place. Most people have a cognitive description of their childhood places and activities that has stayed in their minds for ever. This cognitive picture satisfies the need of belonging as it becomes the place of people's identity and the place that they belong to. Thus it is important to provide healthy spaces for children within the house and outside in the neighbourhood to make it a constructive and salutary space for sociable activities, for fun as well as knowledge.

Location of the house: as mentioned in the discussion of the empirical work in Chapter 8, people prefer to live within the interior areas which are close to Kuwait City, where they can be close to their families and loved ones as well as their job, as this has great

influence on the family's satisfaction. Also, it gives people a sense of not being segregated from the core of civilization which is the city centre. In Kuwait, interior areas are associated with good utilities and services which make them the areas that people are keen to live in. In contrast, in the isolated areas located far from the city centre people tend to live with anxiety and frustration as they are considered to be of low class and old-fashioned, as it can sometimes be difficult to get in to the city centre due to the heavy traffic. Legislators need to find a way of providing people easy access to city centre to decrease travelling time and to make sure that people are not separated from their loved ones.

Space layout and proximity: house size, the orientation of the rooms, location of the doors, furniture layout and space organization in general has an impact on people's well-being and their social interactions within the house, and influences people's way of life and their relationships with each other. It is important that designers and legislators address this social and cultural aspect of people's lives in addition to the environmental and economical aspects. The problems created by not setting borders, or providing social and physical specifications for spaces within the house to enhance the control and to promote interaction between family members minimize the degree of satisfaction of the house as well as the feel of belonging to it.

Chapter 10 The Research Conclusions

10.1 Introduction

Because of modernization people have started to copy designs from other cultures, resulting in a number of noticeable changes to the traditions and functions in the home. The first, and most dramatic was the change in the role of interior architecture; modern Kuwaitis seem to be captivated by the idea of modernity and its associated materialism, instead of the holistic experience offered by the traditional house. In Kuwait many houses have become galleries for lavish furniture that is rarely used, transforming homes into showrooms symbolizing wealth and opulence. Second, rooms were created that were not in use for years, becoming a waste of land property. Third, the size of the dwellings implies that people are thinking “the bigger the better”. Fourth, unsafe and environmentally unsound materials and impractical designs have been used, as a result of which the houses need constant alterations to make them homes.

In contrast with the traditional courtyard house, Kuwaiti houses have become spaces without room for socialization for the adult family members and with no safe play area for children; more importantly, space for privacy and cultural norms has become less imperative. The alteration process is therefore never-ending, as people struggle to make their houses fit their needs and cultural values. At the same time, they are facing a dilemma in house design as they wish their houses to fit them as people with profound traditional norms and a lifestyle based on Islamic values, yet in their daily lives they also have to cope stylistically with modern globalization trends that increasingly demand that they use different materials and technology.

From observational approaches to Kuwaiti housing, it has been found that the people are experiencing a housing crisis, specifically in interior architecture, as they are building and living in houses that fulfil neither their human needs nor their cultural and social activities.

The author investigated the main reason behind such devastating phenomena and found that building codes and the current housing legislation contain very little information regarding interior architecture in house design. In fact, current housing legislation is greatly inspired by ‘modern’ house design, with no regard for Kuwaiti culture and social life, and no regard for the logical and environmental aspects of the old Kuwaiti traditional courtyard house, particularly its interior architecture layout, the integration of its spaces, and its philosophy regarding family interaction and privacy, within which people lived for years successfully and harmoniously.

From this point of view, the author believes that houses should be designed firstly and finally for the well-being of humans, so they have to be designed to satisfy all aspects of a person’s habitation needs – environmental, socioeconomic, cultural, physical and psychological. As a result, the aim of this study was to build a body of knowledge based on several theories, such as Maslow’s Motivation theory, Adaptation theory, Space Syntax, and Sustainability, in order to enrich and improve the current Kuwaiti housing legislation. By having access to such authorized information, in theory Kuwaitis could improve their homes.

10.2 Thesis review

After a brief overview in Chapter 1 of the aims, scope and main themes of the study, the thesis was divided into three parts: **part one** (Chapters 2 and 3) gave an introductory background to the history, geography, demography and culture of Kuwait and the influence of those factors on the design of Kuwaiti houses in the past, and their development in more modern times. This set the framework for the discussion of what makes a house a home within the religious and cultural traditions of Kuwait, and how those traditions affect people's lives within their homes.

In **part two** (Chapters 4 to 7) the literature of a number of different theories was explored to illustrate the different facets of human beings' needs that should be incorporated into the design of houses in Kuwait.

In **part three** (Chapters 8 and 9) the empirical work of this research was presented and the methodology, results and interpretation discussed, along with some conclusions and recommendations for improving Kuwaiti housing legislation.

10.2.1 Part one: Cultural context

The first part of this thesis has two chapters. **Chapter 2** is an introduction and brief history of Kuwait, and a dissection of its geographical, cultural, environmental and socioeconomic background, followed by a review of urban and housing development. This part discussed the impact of Kuwait's location and its demography on house design and its adaptation to the availability of local materials, as well as the influence of the hard life and poor resources on people's financial standing as reflected in their house design. The political aspects of the government's participation in people's lifestyles

within their houses with the development of modern urban house designs were also described. In addition, this chapter explained Islam as a belief and a way of life and its philosophical influence on the culture and people's daily lives within their houses.

Chapter 3 is where the conceptual aspects of home and house were discussed in order to shed light on the idea of the house and home in culture and environment. In order to be able to design a prototype Kuwaiti house, the genotype of the Kuwaiti house, that is the traditional courtyard house, should be explored and its philosophy and techniques embedded in the improved housing legislation.

10.2.2 Part two: The theories

Part two reviewed the literature which is the theoretical framework for this study. The study tends to take comprehensive theoretical approaches from different theories; this is needed to improve Kuwaiti house legislation as this is the authorized realm that allows the government to improve people's lives within their houses with minimum need for constant alteration. Accordingly, the study explored different theories such as Maslow's Motivation theory, Adaptation theory, Space Syntax, and Sustainability and accumulated knowledge from each in terms of interior architecture design as it relates to inhabitation and human beings' priorities, in order to enrich and improve the current housing legislation, which in turn would satisfy people's needs within their houses.

This part starts in **Chapter 4** with a discussion of the theory of adaptation. The process of adaptation is involved in every aspect of the lives of all organisms, therefore adaptation is a natural process human beings carry out every day of their lives. This includes adaptation within their houses and their environments, and this is where the

need to explore the theory of adaptation in this research emerged. The importance of adaptation appears on the surface when people move into the house and start to interact with its interior. In turn the form of the house develops as a result of such interaction, as each environment demands a certain functionality to adapt and live within it. This leads to the fact that the form and the shape of the house has a fundamental impact on people's lifestyle, self esteem and self actualization. It is important that legislators acknowledge the hidden force of adaptation, as it is clear that at present the majority of Kuwaitis are not aware of it. People are instead moved and connected with the idea of modernism and its association with materiality, as shown in the results of the interviews. Legislators should address the notion of people's adaptation in terms of their culture, environment, social life and family interaction within the milieu of the house, so they can see the full picture of their real life before they build and move into it, and so that people do not follow merely subjective opinions and global designs, which lead them to conflict and discomfort. In addition, designers and legislators ought to present the glory of their Kuwaiti forefathers' legacy in adaptation, culturally, environmentally and socially; as living without identity and distorting their traditions will lead people to lose sight of who they are and result in confusion.

Chapter 5 investigates Maslow's Motivation Hierarchy of Human Needs, which is based on five human needs: biological, safety, love and belonging, cognitive and aesthetic, and self actualization. Motivations in house design are many and varied and not only depend on personality and culture but also change with time, place and mood. Human needs are extremely important in house design as it is an essential aim to be within a house. In fact, human needs underlie all the aspects that make a house a home. People's daily activities, culture/religion, personal space, privacy, traditions and values

are fundamental factors that formulate successful homes and which should be mirrored in their interior architecture and design. Legislators should consider Maslow's human needs in order to design houses that people can make into homes and inhabitable spaces. Therefore suggestions and recommendations that include these human needs are explored in this chapter to inspire the legislators to improve the current house legislation, and hence, it is hoped, to improve people's lives.

Once having found a space to live, and so fulfilled their basic human needs, people need to divide their house into spaces devoted to functions according to the family's priorities and hierarchy, needs, daily activities and social lifestyle and interactions. In order to illuminate this aspect the theory of Space Syntax was explored in **Chapter 6** of this study. Space Syntax encompasses a set of theories and techniques for the analysis of spatial configurations. It can help designers to illustrate the impact of the layout of the house's spaces and their integration, to give control of the spatial relationships which in turn affects people's safety and their cultural and social interaction within their house. According to the functions within these spaces, they must have order and access, that is, they should be physically and socially integrated and connected.

Moreover, Space Syntax theory has been implemented in this chapter to make comparisons between the modern house and the traditional house to help legislators to display the results to people as evidence of the high quality and successful functionality of the traditional (courtyard) house in terms of the layout of its rooms and its integration and people's interactions. The Space Syntax analysis showed that there is a logical hierarchy in the traditional house and that its spaces reflect a systematic order for the interior architecture that promotes a social life which enhances its inhabitants' privacy,

segregation, and daily social activities, whereas the modern house failed to accomplish this. Legislators and designers should consider using Space Syntax theory to facilitate the design of functional interior architecture and produce suitable houses that enhance people's interaction and conserve their daily social life within their house.

In **Chapter 7** the notion of **Sustainability** as it relates to housing was discussed. Sustainable development aims to meet the needs of current generations and ensure the availability of a well-preserved environment and resources for future generations. At the same time if sustainable development is achieved it can contribute greatly to improvement in the quality of life. Therefore this chapter gave guidelines about how the ideas of sustainable development might be applied to housing in Kuwait in order to guide the overall development of Kuwait and provide an area where legislation can be introduced to support the move toward sustainable development.

10.2.3 Part three: The empirical work and recommendations

After the theoretical work was completed, the empirical work of the study took place, and this is discussed in **Chapter 8**. The aim was to get information and knowledge from Kuwaiti people regarding their life within their houses. The research therefore adopted a qualitative method structured by an open-ended questionnaire and face-to-face interviews. The author obtained data by using qualitative interviews with sixty people from different areas in Kuwait, randomly chosen from a range of ages, genders and professions. The interviewees were asked their opinions about safety and control, social daily life, freedom, personal activities like eating and sleeping, indoor and outdoor activities, privacy, children's playgrounds, materials, house design, family interactions and other things about the typology of the house. The aim of these qualitative interviews

was to explore people's perceptions and evaluations of their life within their house, particularly as it is affected by the interior architecture.

By interpreting the research findings in the light of Maslow's hierarchy of human needs in conjunction with the other theories explored in this thesis, the author was able to make a number of recommendations for the principled improvement of Kuwaiti housing legislation, and these are presented in **Chapter 9**.

10.3 General housing recommendations and findings

10.3.1 General themes

According to Kuwait Municipality, the government has divided the residential area into two areas: the public housing residential areas and the private suburban areas which are mostly those close to Kuwait City. In the populated areas, the governmental public houses are only for Kuwaiti people. The architectural design for both the interior and exterior of all these houses is the same. On the other hand, in the private house areas the houses are designed according to the householder's desires and requirements so the houses are all different from each other. The following are general housing recommendations and findings that could be used as a framework in Kuwait Municipality and PAHC.

10.3.2 Housing

The most critical phenomenon that arises from this study is that Kuwaitis are in confusion and contradiction regarding their perception about the notion of the house, and what they need within it, and what they want. This is manifested in their lack of appreciation of their true requirements, in terms of their traditions, cultural values,

religion, and their social, environmental and behavioural needs and how these could be promoted by the space layout and integration, privacy, segregation and other design features within the house which help to make it home. This study found that when people are asked about what they like and dislike very few talk about the elements just mentioned, as they are trapped in the illusion that the house should be designed according to a different culture, and that materiality and subjectivity is associated with modernism, and that the house should be equipped with the latest technology. This leads them to mention all aspects of the materialistic qualities of their houses, but not to consider the fundamental notion of what a home should be.

On the one hand, people do not want to appear old-fashioned by living in a traditional house, even though they have a high regard for its functionality and its environmental aspects. At the same time, they want to submerge themselves in twentieth century technology developments and advancements, resulting in a dilemma between the need to live in the cliché of the present and the desire to live according to a holistic notion of the traditional courtyard house from the past. Legislators and designers should seek to educate people about the main function of the house and human behaviours within it, and present people with house designs that meet their human needs culturally, socially, environmentally, and economically. Also, it is important that legislators specify rules and codes that formulate balanced and sustainable house designs that allow people to enjoy the present's modernity wisely, treasure the legacy of the past, and conserve the future without losing their identity.

In general the spaces and the total floor area of the government public and private houses are small (400 sq m). This does not fulfil the inhabitants' needs and generates

problems. The city urban planning and building legislation codes, such as the setback requirements, site landscape, building height and density is considered an essential factor in limiting the number of rooms and their size. This is the main reason respondents preferred to live in houses not flats, as houses have a larger property land space, freedom to design and create more appropriate private spaces. In addition, they have more flexibility and can fulfil many other future needs of their inhabitants. When a design is prepared for a house its occupants should at the same time be able to see a plan of how that house might be developed in the future, so that they can have peace of mind regarding the expansion of their family and the demand for extra space.

Both public and private house owners were keen to participate in the design process, and be aware of its materials and future expectations. Both the Kuwaiti government and the people have missed this critical need, but the fact is that families still have strong ties between each other and between their relatives, so need constant gathering and interactions. However, people who live in government public houses lack the ability, or have very limited potential, to make any future extensions to their houses in order to sustain their daily way of life.

10.3.3 Legislation

Building legislation assists designers, home owners, decision makers and authorities to formulate and control the building types by setting laws and building codes that regulate the production and the process of construction. Legislators also produce rules and regulations that specify basic design restrictions for site testing, building size, height, interior architecture, and construction materials. For such reasons, it is important that legislators update the current housing legislation and continually improve it, as people's

needs and requirements change with time. At the same time, authorities should maintain the basic fundamentals and the genotype of the Kuwaiti house design and its social and cultural values.

In terms of updating, the housing legislation contains several sections that the author considers legislators should restate. For instance, according to the Kuwait Municipality, the government has divided Kuwait into three areas: commercial, residential, and industrial. Some areas have mixed the commercial and the residential, and the result of such a mix in areas like Abrak Kheitan and Farwaniya has caused conflict and insecurity that people experience on a daily basis. These areas typically include housing that is owned by householders, high rise apartment buildings inhabited by foreigners, and commercial shopping malls and shops. The government provides a variety of facilities and services like schools, supermarkets, petrol stations and free utilities such as electricity and garbage collection along with many other infrastructure needs. However, problems arise every day due to the lack of privacy between neighbours who live in two storey houses and people who live on the seventh floor of a high rise building, in addition to the overcrowded streets, pollution, and neighbourhood conflicts due to differences in background and culture. It is crucial to update the rules that allow this mixed use of an area to lessen these problems that are affecting people's lives on a daily basis. On the other hand, enhancement measures such as regulating the building percentage and building process through the Kuwait Municipality building code should be encouraged and maintained.

10.3.4 Process

Authority: According to the housing legislation, it is only after receiving permission from the Kuwait Municipality that an individual may build, remodel, reconstruct, or renovate the shape or form of the exterior or the interior of their house. The owner of the building or whoever represents him/her must submit an authorization of the sampler that is prepared for the building. The sampler must include the following supplements that are included in the current Kuwaiti housing legislation, with some additions and updates suggested by the author:

1. All the documents and design plan drawings required by the Municipality, which should be signed by the multidisciplinary design committee or group creativity which should include: the engineers (civil, electrical, and technical), landscape architects, environmentalists, architects and interior designers, and most importantly, as the interpretation from the findings in this study shows, the owner. Participation of the owner is extremely important, as his/her input to the design process would endorse a successful house design;
2. Annual updated list from the design committee of materials and technological aspects and descriptions. Some of these to be recommended as mandatory, while others could be suggested as options people could choose;
3. The agreement of the electrical and water ministry;
4. The agreement of the construction ministry for plumbing;

5. The agreement of the communication ministry;

6. The agreement of the environment ministry.

Design: According to Lin (1992), house design should include four steps to create a successful house:

1. A program must be established, based on certain givens like the people's needs, budget, regulations, surveys and objectives, which must all be addressed for the present time and as far as possible for future needs.
2. Bubble diagrams which present a graphical representation of an outline for all needs and requirements should be established to show building spaces, circulatory patterns, and spatial relationships.
3. A site analysis should be conducted by taking inventories of views, circulations, climate, topography, utilities, neighbours, street traffic, safety and security aspects and any data that facilitates and promote people's well-being within the house.
4. Based on the bubble diagram and site analysis the fourth step is the preliminary design concept and ideas that suit basic functions (use and aesthetic), established and accumulated through analysis, diagnosis, and synthesis. In this step the

people's involvement is critical as their participation would enhance their self actualization, and increase their satisfaction in their home.

In addition, the design committee or group creativity should strive to find the best design solution and identify as many ideas as possible then choose the one that best satisfies the needs of the house owners. Function analysis identifies the owner's needs, defines the theme in verb–noun descriptions, and associates value measures with these functions. The use of a multidisciplinary group in the design process, composed of the owner (families), and the design committee has been shown to yield from 65-93 percent more ideas than arise from an individual working alone. The team not only generates more ideas but also stimulates the creative potential of each participant, as one individual idea starts the associative processes of other group members. This chain reaction triggers many ideas, and the cycle repeats itself (Kirk & Spreckelmeyer, 1988).

10.3.5 Housing economics

It is important that legislators consider having a closer look at people's financial level and background when allocating them as neighbours. Islam encourages neighbouring and interaction among neighbours, but such harmony is not possible if the neighbours are not homogeneous financially. For instance, it will be hard for a middle-class family to furnish and use materials to the same level as their neighbours who are from the upper class, and this puts middle-class people off visiting and interacting. Also, the lifestyle between each level differs in terms of entertainment and hospitality, recreation, decoration, fashion and many other materialistic matters. This is one of the advantages of a traditional courtyard house, as these are all the same on the exterior, regardless the owners' financial status, as its decoration and lavishness is very limited and controlled

by its genotype structural design and characteristics (although the interior is another matter).

There are other economic issues that concern people, to the extent that 85% of the respondents were very keen to choose their neighbours, and 92% were very concerned about their neighbour's impact on the family members, including their safety, personal appearance, financial status and so on. All these issues have a profound impact on the family's daily life both within the house and outside it as the family feels they have to design a suitable small environment and isolate themselves with their children inside the house instead of interacting with their neighbours. As a result Kuwait has ended up with a divided and inhomogeneous society.

10.3.6 Technology

Technology has become a necessity in people's houses as it makes the entire world become close and approachable due to telecommunications, the internet, satellite and many other amenities. Thus, implementing and updating technology in housing is essential. From the respondents' point of view technology is important not only because it eases their life but, again, it is associated with modernism. As a result it should be important from the legislators' and designers' points of view too. Examples of technology likely to be wanted in a house include: home theatre facilities, as watching movies at home has become more fashionable; computer and internet utilities for education and to connect with the outside world; intercommunication devices; an elevator, or at least a designated place for one in the plan; automatic thermal ventilation; sound/heat insulation and means; water tank cooler to keep the water from getting hot in the intense summer heat; CCTV to enhance the security within the house and the

neighbourhoods; and sustainable materials to promote safety from environmental and accidental hazards.

10.3.7 Ideology

Layout and physical structures: As mentioned before, the private areas are close to Kuwait city and are the ones that most people are interested in, however, there is no longer any space in these areas. The findings in this study showed that people are concerned about living in areas that represent who they are. The standard belief in Kuwait is that people who live in the interior areas are more modern than those who live away from the city centres because the interior areas have had the greater share of the government's attention in terms of utilities, urban planning, landscape, beautifications, leisure facilities, cleaning activities, etc.

All areas in Kuwait have a professional mall, supermarket, schools, youth clubs, mosques, and many other modern facilities but most of them lack the most important place, that is, a social place. Two segregated places that could be designed for big celebrations and festival holy days like Ramadan and Eid are needed. These places would give the opportunity for all neighbours and individuals to gather at least once a month to participate in traditional games, social gatherings to support each other and update news and personal matters, so passing on traditions and norms to the next generation, and enhancing Islamic unity.

Moreover, people need easy access to move around by car or walking without accidents and getting lost through complicated urban design, and they need human landmarks and vegetation.

Type of dwelling: As mentioned before, most people prefer to live in a house rather than a high rise apartment building. The 1980 Alsawaber high rise building has proved its failure in accommodating Kuwaiti families and yet the governmental house is also not completely getting people's satisfaction. On the other hand, the author is not calling for the termination of the governmental houses as they cover the majority of the middle (and sometimes the upper) class, but they should be inspired with the philosophy of the traditional courtyard house and should have a flexible design that could accommodate present and future needs, along with modern and technological features.

In addition, governmental public houses need more freedom in terms of the code and regulation. For instance, it is not allowed to make alteration or remodel any features within the house for the first five years unless there is a critical situation that necessitates it. The householder has to go through long bureaucratic procedures to accomplish any such alteration. In addition, the long waiting list of around ten to fifteen years for the government public houses means that the house is almost immediately uninhabitable by the time the family moves in as they will have grown in terms of age and knowledge, and their needs and style will have changed too. If the house sometimes can not fulfil a family's needs within a few years it will be impossible for a flat to accommodate those needs.

Role of community: Housing legislation has to have rules and regulations to designate places where people could gather and interact with each other and participate in local traditions, social and political activities, as this kind of space would enhance the role of community among families. Equally, the notion of community could be achieved by

giving people the chance to participate in designing their own area via commenting and suggesting ideas and qualities that satisfy their love and belonging needs. These include social places, children's play areas, places for women's activities, landscape and greenery, and any other aspects that help to maintain a united community lifestyle, and make places that people will always belong to.

10.3.8 Future growth

Housing legislation should have alternative plans for the governmental public house in the present and also after a few years to accommodate future needs. Householders in private houses should also have rules and codes regulating the design to accommodate future needs. So the house should be flexible to cope with the constant changes that take place during the cycle of people's lives, should sustain the genotype of the Kuwaiti house, and be constructed using durable and available local materials to sustain an environmentally healthy space. Legislators should be clear and strict in demonstrating the importance of the house design being in harmony with people's present and future human needs, physically, environmentally and spiritually to enhance their well-being and self satisfaction.

10.3.9 Social and cultural housing sustainability

Legislation should have solid and holistic codes to regulate prototype Kuwaiti houses. This could be achieved if the social and the cultural values are embedded in the improved housing legislation. The rapid transformation that is currently taking place in house design resulting from the obsession with modernity and materialism means that people are not connecting with their houses and their inner souls, thereby failing to make the house a place to belong to. The traditional courtyard house flourished as a

result of responding to people's social and cultural life that in turn contributed to its ambiguity and rich philosophy. Sustaining social and cultural values would enrich the house design and implementing them in housing legislation is a necessity.

10.4 Criteria

10.4.1 City

City location and design should help people to get in and out of the city with ease and security. The notion underlying the Islamic city was an extension of the concept of the traditional house design; in the same way that the courtyard was the centre of the house and all rooms surrounded it, so in the city everything was oriented round the centre. All roads, neighbourhoods, markets and courts were located in the city centre, which made people feel that they were coming from the unsafe and uncertain outside places toward the city sphere which was a more private and protected space. Having this kind of design philosophy and ideology would secure and ease the movement of people travelling between their home and the city. And all over the country this basic philosophy could be used to divide the areas into small cities or villages that have a centre around which all house are located.

The centre of the city is where people gather, celebrate, and socially interact on a daily basis, either for business or domestic purposes such as shopping for groceries. This kind of design has also affected the house design and the neighbourhood in general as houses are closer together the nearer one gets to the centre, making them safe and busy most of the time.

Current Kuwaiti housing legislation has the same notion of centralization, in that each area has its own facilities, from professional mall to clinic, supermarket and other businesses. The problem lies in the way the streets that connect people's homes to the centre are arranged in a grid design. Thus, there are main streets that are connected to smaller streets and other routes and branches are connected to them which makes it very complicated to get from place to place. For this reason the author emphasises the use of Space Syntax as a systematic approach that could solve such problems, as it helps to allocate spaces in a way that makes them approachable and efficiently used, by integrating them with the centre or segregating them, as appropriate. Moreover, Space Syntax would help to highlight the danger spots where the streets are not much used and have less traffic, making crime more likely. Legislators should consider the notion of the old Islamic city design together with the theory of Space Syntax to ease people's lives within their area, as this also affects the design of their houses and their neighbourhoods.

10.4.2 Neighbourhood

Neighbouring has a substantial impact on families' lifestyles within a Muslim culture, because of religious regulations that emphasise the cooperation, interaction and care that should pass between neighbours. Thus, harmony between neighbours in terms of background and belief is important to create interaction among people. Harmony generates feelings of safety and peace of mind among the families in the neighbourhood. Most people were concerned about their neighbours due to the lack of interaction between them and their household members. To many, the neighbours were considered as strangers that family members should be wary of.

The following are some of the suggestions made by the author and the interviewees that need to be considered in the design of any future neighbourhoods. These can be divided generally into several categories:

1. Matters that are related to children, such as a safe area to play. Most children play inside their house or play with the neighbour's children, but still inside the house as it is unsafe to be outside, due to irresponsible drivers, harsh weather, and the fact that there is no open/shaded area with controllable qualities where adults could supervise their children's activities.
2. Renting for foreigners or singles within the interior area of Kuwait should be stopped. Besides the inherent privacy and security problems, this causes overcrowding in the neighbourhood with the resulting inharmonious environment for all family members, especially women. A family's interaction and socialization decreases if there are cultural differences between them and their neighbours. The legislators should specify strict rules to allow renting for married families from similar cultures, or individuals who just got married and need space to start their new life.
3. There should be a government social building in every area in Kuwait. This building should have a department for each ministry in Kuwait to facilitate and manage people's paperwork, particularly that related to their house, to speed up issues of planning, documentary permissions for building, renovation or alteration and the production of the paperwork required by the legislation. This building could also be used as space where people could learn about the customs

of Islam and traditional neighbouring values, and where new neighbours could be welcomed. In addition, this government department should also provide a periodical obligatory house maintenance service for plumbing, water, electricity, lighting, painting, flooring and other matters related the house construction.

4. Matters that would improve the aesthetics and hygiene of neighbourhoods, such as practical prototype gardens and landscaping where females and children can safely socialize, daily cleaning, paved roads and pedestrian walk areas for exercise, as well as displaying Kuwaiti art and sculptures, fountains and other noteworthy utilities and features that enhance the beauty and serenity in the neighbourhood. These are some of the main features that lead to a secure lifestyle that could be attached in people's memories and promote Maslow's need to belong to a place. Many also mentioned they would like space for planting in the front yard, which enhances the neighbourhood as well as increasing the shade.

10.4.3 Dwelling

A - Interior architecture: Housing legislation should emphasise the notion of the main function of the house by illustrating the philosophy of the house in Islamic methodology and its humanitarian principles, and focusing on what *Sakan* "home" means in terms of its constructional and interior architecture.

1. Housing legislation should consider embedding systematic plans to nurture the house use in terms of daily activities, religion, culture, social life, environment, economics, safety, privacy, and people's way of life and family interaction.

2. Authorities should understand that the house has an ideology beyond being a cubical structure that people spend time in. It is a space for personal expression and a field for self-actualization, so room needs to be left to achieve and rejuvenate such needs in order to avoid anxiety and depression.
3. It is crucial to embed the terminology and philosophy of the traditional house into the current house design, as this is important in sustaining the identity of Kuwaiti people and enhancing their peace of mind and security within their homes. It is a philosophy based on the courtyard house's ambiguity resulting from the hierarchy of its spaces, rich Islamic values, its balance between simplicity in terms of space layout that goes harmoniously with its cultural complexity. It means they can treasure their home as a space that they love and belong to, and pass its profound layers of traditional philosophy to another generation.
4. Making the interior of the house a space for protection and security is a global need that should be embedded in housing legislation in terms of design safety/security codes and regulations and materials. This means things like minimizing the number of entrances and having the rooms opening inward into the house not outward and exposed to the public.
5. Currently Kuwait Municipality and the PAHC are conducting questionnaires to find out what people need within their houses. But it is not enough to conduct such surveys as people automatically ask for materialistic subjective items, as

the respondents in this study showed, and ignore the more fundamental objective aspects of what it means to live in satisfaction and safety within a house. People need to be educated and guided as to what their own culture has to offer, so that they do not blindly follow the designs of other cultures, and can live in well-being and contentment.

6. Legislators need first to help people understand the main reason for building a house and then how to embed it within their own culture and norms, and finally how to make it their own home by adapting different ideas and using suitable materials and technology.
7. There should be cooperation between Kuwait Municipality, the PAHC, the post-oil builders, and the people themselves to amplify the success of people's lives within their houses to generate genuine housing legislation that creates a prototype house design.
8. The importance of the interior architecture on people's daily life and well-being needs to be recognized. This could be achieved by exploring the theory of Space Syntax, investigating new materials, exploring new advanced technology or any aspects that could enrich people's lifestyles and satisfy their desire for luxury. And all this should be framed by cultural values, religion and fundamental human needs.
9. Kuwait's weather should be dealt with precisely because it is the main feature that makes the house a space of comfort or frustration due to the harsh climate.

Legislators should address sustainable development that goes amicably with the environment. They should also improve the housing in terms of its thermal properties by using environmental techniques such as orientation, ventilation, hot/cold/sound insulation, offering shaded areas within the house, using cooling materials, and improving the use and the look of local building materials such as limestone. In addition, light should be shed on the environmental building techniques of Kuwait's forefathers that enabled them to survive for years without electrical technologies.

10. Housing legislation should be more concerned about the rooms' location, size, openings, and orientation as this has an impact on the furnishing process which influences people's interaction, in particular, in living rooms and bedrooms. Bathroom and kitchen location and ventilation also need to be considered, due the constant family gathering and social events, as well as the size and shape of their windows, door location and size.
11. The *Dywaniya* appears to be an increasingly important interior space in spite of the fact that because of globalization people have tended to ignore its importance in their lives, especially for men. Designers and legislators should emphasise its significance and crucially designate space for its location, even if it is only as a future need.
12. Designers and legislators have ignored the fact that modern houses are so large that householders need servants to help take care of them. Servants are living and serving family members within the house most of the time. Most of the

recent public houses and sometimes even private houses have ignored this fact, leading householders to build a sort of “shelter” made of simple materials on the roof or in the courtyard to accommodate the servants, with the resulting lack of privacy and very poor ventilation. Maids and servants should have their own private, healthy, safe spaces; males should be located in the annex and female servants should be located on the roof to promote the segregation that enhances privacy for the family members and for the servants themselves.

13. Respondents also mentioned the alterations or changes they made within their houses, whether this involved adding a room/apartment, enlarging the living room or bedroom, adding a *Dywaniya* or decorating/renovating the house as their life within it changed. However, these kinds of alteration are not easy to do repeatedly because changing and redesigning the house is limited by its structural system which fails to meet the expectations of the inhabitants. In addition, it was clear that most of the respondents were not aware of other options in terms of materials and flexible design solutions. Designers and legislators should provide a list of new, adaptable, environmentally sound, flexible and safe materials and update these materials annually with the latest building and design materials products.
14. The need for indoor or shaded safe outdoor play areas within the neighbourhood is crucial for most of the respondents. Most houses do not have enough indoor spaces, and often the basement or the front yard is the only suitable space for these activities. The problem with the basement is the lack of ventilation in most houses, and the harsh weather in the front yard makes it impossible to play there

until the cool of the afternoon or evening, or only during winter, when it is very cold. But the fact is parents cannot keep their children inside all the time as this causes overcrowding in the house. This is perceived as a factor forcing children to play outside of their houses in dangerous streets where parental surveillance and control is minimal, leading to juvenile delinquency.

B - Exterior: From the exterior point of view, in order to make housing a pleasurable space to inhabit the following should be considered:

1. The surroundings should be considered in terms of adjacency with other neighbours and the materials that are used on the façade. Many people have no respect for their surrounding and the environment as they are using harmful materials and unfriendly designs, and planting shrubs and trees that block drivers' vision. All this should be regulated and coded so as to systemize and organize the house exteriors in order to unify the aesthetic aspects of the neighbourhood.
2. In terms of house location and property land building percentages, legislators should be aware of the space needed for people to park their cars safely without blocking the street, or conflicting with the movements of pedestrians. According to the current housing legislation, areas have a width of only three metres setback and a ten-to-fifteen-metre-long parking lot to accommodate a family that typically has four to six cars. Not to mention what happens when there is a social event or weekly family gathering.

10.5 Final message

This research arose from the necessity of developing an approach to housing legislation to meet the aims and objectives of the study. The research has identified important aspects related to physical, psychological and sociological criteria that must be considered in order to improve the Kuwaiti house, particularly its interior architecture, which in turn would improve people's lives within their houses.

The research findings from the empirical work have been considered together with the theoretical approaches in order to build a body of knowledge on which future housing legislation could be based. The framework has been classified under the umbrella of Maslow's theory of human needs, and it endeavours to locate housing legislation within this model due to its importance and alliance with the notion of the basic human needs. These needs are the guidelines for improving the interior architecture in current Kuwaiti housing legislation, as this has the greatest impact on people's religious, social, cultural, environmental and, most importantly, humanitarian interactions in terms of their biological, safety, love, self esteem, and self-actualization needs, and it is these elements that turn a house into a home.

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Appendix A First draft interview questions

The aim of these questions is for Ph.D. study undertaken by myself to produce a model for a prototype house for Kuwait. The findings of this Ph.D. would be used as a support for housing legislation in Kuwait Municipality and Kuwait Authority for Housing Care in the capital of Kuwait. As a result this study would help to design and build ideal and suitable houses for Kuwaitis that are in harmony with Kuwaiti families' culture, economic, architecture/interior design, and social life styles. These following interview questions would be used only for this research purpose. All the information that you will provide in this study will be confidential.

14-12-2005

Personal Data:

General description of responder

Code No.....

Name:

Age:

Occupation:

Address:

Length of stay:

M F

Questions about Kuwait City:

1) Mention 2 areas you would like to live in Kuwait city, give 1 reason for each?

1st area.....

Reason.....

2nd area.....

Reason.....

- 2) *Mention 2 areas you do not like to live in Kuwait city, give 1 reason?*

1st area.....

Reason.....

2nd area.....

Reason.....

- 3) *Mention 2 qualities you like in modern buildings, give 1 reason for each?*

1st quality.....

Reason.....

2nd quality.....

Reason.....

- 4) *Mention 2 qualities you don't like in modern building, give 1 reason for each?*

1st quality.....

Reason.....

2nd quality.....

Reason.....

5) *Mention 2 qualities you like in traditional building, give 1 reason for each?*

1st quality.....

Reason.....

2nd quality.....

Reason.....

6) *Mention 2 qualities you don't like in traditional building, give 1 reason for each?*

1st quality.....

Reason.....

2nd quality.....

Reason.....

7) *Would you like to add more about Kuwait city?*

.....

.....

.....

.....

Questions about the Neighbourhood:

8) *How is your relationship with your neighbourhood? Is it: good/ bad, give 1 reason?*

Good/ bad: **Reason**.....

9) *Mention 2 qualities you like in your neighbourhood and give 1 reason why?*

1st quality.....

Reason.....

2nd quality.....

Reason.....

10) *Mention 2 qualities you don't like in your neighbourhood and give 1 reason?*

1st quality.....

Reason.....

2nd quality.....

Reason.....

11) *Do you like to be aware of the events of your neighbourhood? Yes/ No please give 2 examples, and give 1 reason for each?*

Yes/No

1st event.....

Reason.....

2nd event.....

Reason.....

12) *Do you prefer to choose your neighbours? Mention 2 reasons why, and how to achieve it?*

Yes/No

Reason.....

Reason.....

Achieve it by.....

13) *Does your neighbourhood have an impact on your family in any way? Mention 2 impacts*

Yes/No

1st impact.....

2nd impact.....

14) *Mention 2 important customs you like which have been used in the past and you would like to use them now in your neighbourhood, give 1 reason for each?*

1st custom.....

Reason.....

2nd custom.....

Reason.....

15) *Mention 2 qualities you would like to see in your neighbourhood in the future, give 1 reason for each?*

1st quality.....

Reason.....

2nd quality.....

Reason.....

16) *Would you like to mention anything about your neighbourhood?*

.....

.....

.....

.....

.....

Questions about the house:

17) *What kind of family do you have? A) Nuclear B) Extended*

Type.....

18) *How many people live in your house? Is the space enough?*

19) *What is the size of your dwelling unit? Is it enough?*

20) *What is the type of the dwelling that you live in now?*

- Apartment within the family house.
- Entire Floor within the family house.
- Annex.
- Villa

21) *What Type of dwelling unit do you like to live in future? Give 2 reasons?*

Type.....

1st Reason.....

2nd Reason.....

22) *Mention 2 alterations or changes you have made to your current house? Give 1 reason why*

1st Alteration.....

Reason.....

2nd Alteration.....

Reason.....

23) *Please give 2 advantages in the design for traditional house, give 1 reason for each?*

1st advantage.....

Reason.....

2nd advantage.....

Reason.....

24) *Please give 2 disadvantages in the design for traditional house, give 1 reason for each?*

1st disadvantage.....

Reason.....

2nd disadvantage.....

Reason.....

25) *Please give 2 advantages in the design for the modern houses, give 1 reason for each*

1st advantage.....

Reason.....

2nd advantage.....

Reason.....

26) *Please give 2 disadvantages in the design for the modern house, give 1 reason for each*

1st disadvantage.....

Reason.....

2nd disadvantage

Reason.....

27) *Are you satisfied with your house's design? Give 2 reasons*

Yes/No

1st Reason.....

2nd Reason.....

28) *In terms of lifestyle, mention 3 activities you most like to do in the house, give 2 reasons for each?*

1st activity.....

Reason 1.....

Reason 2.....

2nd activity.....

Reason 1.....

Reason 2.....

3rd activity.....

Reason 1.....

Reason 2.....

29) *Describe the way you like to have your meal, give 1 reason?*

The way.....

Reason.....

30) Which space in your house is allocated for family and guests gatherings?

31) Mention 2 pieces of furniture you would most like in the house, give 1 reason?

1st Furniture.....

Reason.....

2nd Furniture.....

Reason.....

32) Are you satisfied with your furniture layout in your house? Why, give 2 reasons?

Yes/No

1st Reason.....

2nd Reason.....

33) Please make a list of the 5 most essential spaces you like to have in your house?

1st

2nd

3rd

4th

5th

34) Mention 3 qualities that you aren't satisfied with in your house, give 1 reason?

1st quality.....

Reason.....

2nd quality.....

Reason.....

3rd quality.....

Reason.....

35) *Mention 3 qualities that make you satisfied with your house, give 1 reason?*

1st quality.....

Reason.....

2nd quality.....

Reason.....

3rd quality.....

Reason.....

36) *Mention 2 good spaces for children to play in your house?*

1st space.....

2nd space.....

37) *Which house style does you like, please give 1 reasons why?*

1st style.....

Reason.....

38) *Would you like to design your own house, or ask other to do it? Please give 2 reasons why?*

You design

Reason.....

Other's design

Reason.....

39) *Do you like to use technology in your house, give 1 reason?*

Yes/no

1st example.....

Reason.....

2nd example.....

Reason.....

40) *Mention 2 building materials you like to see used in your house, give 2 reasons why?*

1st material.....

Reason 1.....

2nd material.....

Reason 2.....

41) *Mention 2 building materials you don't like to see used in the houses in, please give me 1 reason why?*

1st material.....

Reason 1.....

2nd material.....

Reason 2.....

42) *How many storeys would you like to have in your house, give 2 reasons?*

Storey number:

1st Reason.....

2nd Reason.....

43) *Mention 3 features you most like to have in the interior of the house, give*

1 reason?

1st feature.....

2nd feature.....

3rd feature.....

44) *Would you like to have courtyard at your house, give 2 reasons?*

Yes/no

1st reason.....

2nd reason.....

45) *In which room your family spend most of their time every day, give 2 reasons?*

Room.

1st reason.....

2nd reason.....

46) *In which location you like to have a family room, give 2 reasons?*

Location.....

1st reason.....

2nd reason.....

47) *Do you need a basement in your house, give 2 reasons?*

Yes/no

1st reason.....

2nd reason.....

48) *Do you like to have more than 1 entrance to your house, give 2 reasons?*

Yes/no

1st reason.....

2nd reason.....

49) *Do you have enough privacy/freedom in your house? How? Give me 1 example?*

Example.....

50) *Are you segregating men and women in special events, give 2 reasons?*

Yes/no

1st reason.....

2nd reason.....

51) *Please give your opinion (good/bad) about the following items in your house, and give reason for your choices*

Lighting Good/ bad: Reason.....

Ventilation Good/ bad: Reason.....

Audio and air-condition Good/ bad: Reason.....

Safety Good/ bad: Reason.....

Maintenance Good/ bad: Reason.....

Privacy Good/ bad: Reason.....

Toilets Good/ bad: Reason.....

Main/preparation kitchens and its facilities Good/ bad: Reason.....

Guest room Good/ bad: Reason.....

Bedroom Good/ bad: Reason.....

Court yard Good/ bad: Reason.....

Car parking **Good/ bad: Reason.....**

Adjacency with your neighbours **Good/ bad: Reason.....**

Changing family number and style **Good/ bad: Reason.....**

Storages **Good/ bad: Reason.....**

Dywaniya **Good/ bad: Reason.....**

Maid rooms **Good/ bad: Reason.....**

Segregation **Good/ bad: Reason.....**

Style **Good/ bad: Reason.....**

Colour **Good/ bad: Reason.....**

Furniture layout **Good/ bad: Reason.....**

Interior/ exterior garden **Good/ bad: Reason.....**

Water features, fountain, swimming pool, waterfall. **Good/bad: Reason.....**

Heat insulation **Good/ bad: Reason.....**

Acoustical insulation **Good/ bad: Reason.....**

Balcony **Good/ bad: Reason.....**

Garage **Good/ bad: Reason.....**

Stairs **Good/ bad: Reason.....**

Windows orientation and size **Good/ bad: Reason**

Doors orientation and size **Good/ bad: Reason.....**

Others:

Would you like to add anything about your house?

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